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EDITOR: MISS M. L. WENGER, S.R.N., S.C.M., DIPLOMA IN NURSING, UNIVERSITY OF LONDON

Hospitals and Public Health

DOCTORS from all over the world will be considering 'The Role of the Hospital in the Public Health Programme' at the Technical Discussions in connection with the World Health Assembly at Geneva in May. Government delegations from most of the 85 member countries are expected to be present and these delegations usually include medical and lay administrators from government departments. A few countries have, in the past, included a nurse as a member of their delegation or as an adviser and the United Kingdom last year included, as a delegate, Dame Elizabeth Cockayne, chief nursing officer of the Ministry of Health, who made nursing history by being the first woman to be chairman of the Technical Discussions—the subject that year being 'Nurses: their education and their role in health programmes'. A number of nurses from many countries were able to attend the Assembly meetings as observers and to take part in the group discussions on that universally important subject. Nurses were not the only ones who appreciated the outstanding contribution made by Dame Elizabeth Cockayne, herself a nurse.

This year we feel that nurses again have an important contribution to make. The patient in hospital is in the most receptive state to accept health teaching though this opportunity has not been adequately recognized in the past. Also nurses in hospital are becoming more aware of their responsibilities in this matter and in addition the beginnings of a further development can be seen — that of a direct liaison between the public health nurses and the hospitals.

Perhaps the more privileged countries will find themselves behind the less-developed countries in the integration of hospitals with health programmes in the discussions at Geneva. In countries where the hospitals have a long history of service and where public health is of more recent growth, it is not unnatural that the two services are only now realizing the need for closer liaison, while in those countries in which the two services are being developed together there is less likelihood of separation.

In view of the discussions pending at the World Health Assembly, it is well for us to look at our services and see where the connection between the hospitals and public health can be strengthened. In midwifery the present position is recognized as being unsatisfactory and the recommendations of the Cranbrook committee will be awaited with lively interest, for the nine months before and after the birth of a child are among the most important in the lives of parents and infant.

The hospital care of the sick child is also changing in that the mother is encouraged to retain daily contact, and some hospitals are experimenting with providing the necessary hospital service to the child in its own home, while, in other areas, public health nurses are specially appointed with local medical supervision to give this care. The home care of sick children—as an extension of hospital care—introduced by St. Mary's Hospital, London, was described fully in *The Lancet* of February 9.

Hospital treatment for adults is now being seen as a temporary phase of as short duration as possible, the patient returning home to the care of the general practitioner with the nursing provided by the domiciliary nursing service as required. While this practice is increasing the organization has, perhaps, failed to keep up with the changing picture with the result that the general practitioner and district nurse are not always informed adequately or accurately when the patient is about to leave or, in some cases, has already left the hospital. This is a matter which depends primarily on the ward sister who may be able to call on the services of the almoner for creating a working relationship in the patient's interests, or she may have to create the channels of communication herself. Where the ward sisters and public health nurses have direct contact or, when this is impossible owing to the wide area from which patients may be admitted to the hospital, where the ward sister can contact the public health nursing officer for the area, the necessary medical information can be given to the domiciliary nurses responsible for the home care of the patient. Where further nursing care is not required the ward sister must satisfy herself that the patient returns home clearly informed on the measures needed for maintaining health and such instruction may need to be printed when diet sheets or detailed guidance is necessary.

The care of old people as a problem is peculiar to the

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XUM

privileged countries and here the health visitor can be the liaison between the hospital which gives temporary care and the community to which the patient should return.

Health education of the public is now being recognized as of vital importance and the radio, television, and the press are all taking part. Have the hospitals lagged behind in this in spite of their immense opportunities? Outpatient departments are the most obvious place for supporting health education campaigns or for the constant emphasis on particular matters of health which can have an unknown but vast influence on the public—whether for smallpox vaccination, diphtheria immunization, prophylactic vaccination against poliomyelitis, or on simple matters of diet, reduction of smoking and the principles of personal hygiene.

The hospitals stand as a symbol of service to the sick but they should not be limited in concept to places concerned only with serious or fatal illness, but should lead the way in the programme of an active health service. Nurses form the largest group of staff in both hospital and health services and have an opportunity second to none. Are we using it and will there be any nurses from this country at Geneva to take part in the world-wide discussions on the role of the hospitals in public health and to bring back for further discussion in this country ideas of practical importance?

Topical Notes

Royal National Pension Fund

THE NUMBER OF APPLICATIONS for annuity and life assurance policies made to the Royal National Pension Fund for Nurses during 1956 reached a record level since the introduction of the National Health Service in 1948. Over 12,000 new proposals were received and the premium income for the year totalled £1,312,036. The Fund's invested assets at the end of 1956 stood at £15,454,289—a rise of over £1 million during the year. Annuities were paid to the amount of £280,782. Policy-holders in the R.N.P.F.N. continue to derive benefit from the exceptionally low cost of administration of the Fund, the ratio of expenses to total premiums received being under 5¼ per cent.

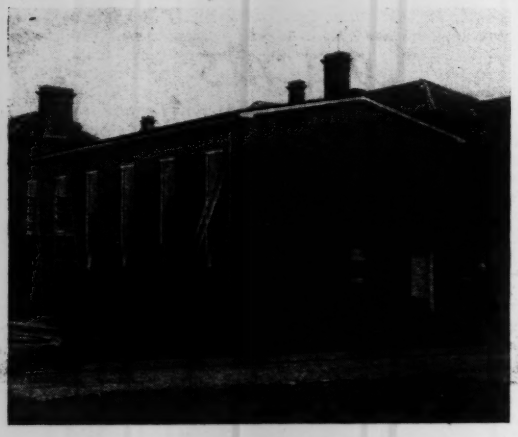
Tour of the Far East

LEAVING BY AIR on February 15 for a six weeks' tour of the Far East is Mrs. E. Rex-Lewis, O.B.E., R.R.C., S.R.N., S.C.M. Mrs. Rex-Lewis, who is principal nursing officer, Soldiers', Sailors' and Airmen's Families Association Nursing Service (S.S.A.F.A.) will inspect 22 of the 77 overseas nursing centres which are manned by the Alexandra nursing sisters—a counterpart of the Queen's nurses, but devoted to the nursing care of Service families stationed abroad. During her tour of inspection of the centres Mrs. Rex-Lewis will first call in Ceylon, and from there she will go to Singapore. In the Federation of Malaya she will make an extensive journey by launch, autogyro and plane to visit the widely scattered nursing headquarters. Before she leaves that country there will be a conference at Kuala Lumpur, which will be attended by all the Alexandra nursing sisters of the area. After visiting Hong Kong and Kowloon she will go to See Kon on the Chinese border. From there Mrs. Rex-Lewis plans to return to Singapore and on her return journey she will visit Cyprus where the Alexandra nurses have been doing excellent work, under very trying conditions, among the families of Servicemen stationed in the island.

SMOG MASKS are being tried out by volunteer postmen. If the experiment being conducted by the Medical Research Council is a success, masks will be issued to all postmen suffering from bronchial complaints.

World Federation for Mental Health

THE DUCHESS OF KENT was among the large audience at County Hall, London, to hear a short address by Dr. Margaret Mead, PH.D., the celebrated anthropologist, under the auspices of the United Kingdom Committee for the World Federation for Mental Health. Dr. Mead is president of the Federation. The subject of her address was 'Mental Health in a Changing World', and her principal theme concerned the danger of too sharp a division between professional practitioners in mental health and



NEW CHAPEL FOR CROYDON HOSPITAL

Left: *the new chapel in the grounds of Queen's Hospital, Croydon, Surrey, which was to be dedicated by the Archbishop of Canterbury on February 14. Handsome furnishings have been provided from the chapel appeal fund. The total cost is in the region of £8,000.*

TO REMIND YOU . . .

February 18. BBC TELEVISION. *Having Your Baby* (the fourth programme is based on courses for husbands and wives at University College Hospital). 3 p.m.

February 21. LONDON. Industrial Health Conference (Industrial Welfare Society) Rembrandt Hotel, Thurloe Place, S.W.7, 10 a.m.-5.15 p.m. £3 3s. members, £3 10s. non-members.

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those 'aspirers' towards better international standards of mental health who set the goals for which all should strive. The practitioners, she said, sought their own immediate ends (in treatment of individuals), and had not time to care about the goals to which their practice was leading them; conversely, there were others who cared only about the goal and were apt to neglect the practice which would lead to it. "Yours is the task to explain mental health", she said. It was a moving target and standards became higher as more and more became known about the subject. "We begin to realize, with scientific material to support it, that for the next century mental health will be measured by our capacity to live as members of the entire world—even by that standard we shall be provincial as exploration begins on the moon." Children must be given an idea of being just a part of the whole human race, and this would have to be realized as it never had been before. During the coming century, Dr. Mead thought, mental health would be a preoccupation such as illiteracy had been a century ago. Discussing methods of co-ordination of aims, Dr. Mead caused laughter when she declared: "Enormous sums of money are being spent in many parts of the world in trying to teach people to conduct themselves like a good English committee." But she protested that it was a fact that British expertness in working through committees was a model for other countries to follow.

Congress in Helsinki

OCCUPATIONAL HEALTH NURSES from various countries will be meeting with medical officers and other specialists in occupational hygiene at the 12th International Congress on Occupational Health which opens in Helsinki on July 1 for what promises to be an exhilarating and instructive experience. It was in 1948, when the Congress held its triennial meeting in London, that nurses first attended and took part in the programme. In that year an exhibition featuring the work of industrial nurses in Great Britain was arranged in the Cowdray Hall by a joint committee of the Royal College of Nursing and the Association of Industrial Medical Officers. In the two succeeding congresses, held in Lisbon and Naples, nurses also took an active part and have shown a keen interest in the work of the Permanent International Committee on Industrial

Finland's National Museum at Helsinki, one of the many handsome public buildings in that city where the 12th International Congress on Occupational Health is to take place in July.

Medicine, under whose auspices these meetings are held. We publish on page 199 details of arrangements for travel to Finland and an offer of accommodation at the College of Nursing in Helsinki. The Occupational Health Section of the Royal College of Nursing has offered a limited number of bursaries to assist members of the Section who wish to attend the Congress (applications for these closed on January 12). Miss Marion M. West, editor, *Journal for Industrial Nurses* and deputy editor, *Nursing Times*, will represent both journals at this important series of meetings, when papers will be contributed by leading occupational health nurses from Great Britain, Canada, the United States, New Zealand and Finland.

Ministry of Health

THE MINISTER OF HEALTH, the Rt. Hon. Dennis Vosper, T.D., M.P., has appointed Mr. John Barter, M.P. (Ealing N.) as his Parliamentary Private Secretary. Mr. Barter has been a member of the Middlesex County Council since 1949. He serves on its Health Committee and is chairman of its Mental Health Sub-committee. He is also a member of the Conservative Party Parliamentary Health and Social Security Committee. The Minister has appointed Mr. P. Benner to be his Private Secretary and Mr. E. F. Cooper to be his Assistant Private Secretary. The Parliamentary Secretary to the Ministry, Mr. J. K. Vaughan-Morgan, M.P., has appointed Mr. J. P. Cashman to be his Private Secretary.

At the approved refresher course for midwives held at Hastings from February 3-9, arranged by the ROYAL COLLEGE OF MIDWIVES. Left, and left to right, *Miss Vera Watson, education officer, Royal College of Midwives; Dr. Hilda Roberts, guest speaker; and Miss E. F. Gore, hon. treasurer of Council. Dr. Roberts is shortly leaving for Canada.* Right: *some of the midwives at the course.*

The Demands of Industry on Adolescents

by A. A. WHITE, M.D., Health Department,
Austin Motor Company Ltd., Birmingham.

ADOLESCENCE, or the period during which the developing child acquires adult characteristics, coincides at the present time with the end of the period of compulsory education and in the case of a large number of children who leave school at this point, with the starting of employment. The school-leaving age has been steadily raised during the past century and may continue to rise, thus altering its present relationship to the peak of adolescence. The Education Act 1944 has set 16 years as the desirable age to which compulsory primary education should proceed, although for practical reasons education to 15 years is all that has as yet been achieved.

The demands of industry and the physical and psychological stresses implied in this phrase thus make their initial impact on this group of early school-leavers at a time when they are grappling with the internal physiological and emotional stresses of adolescence. This coincidence is of the utmost importance in the field of mental health, as if industrial situations to which adaptation is difficult are encountered at this initial stage of employment, failure of personal adjustment, with signs of psychological stress or emotional instability, may readily ensue.

Transition from School to Industry

Clearly, it is important that the transition from school to industrial life should take place smoothly and with a minimum of stress; for this to come about there should be some overlapping or dovetailing of the educational into the early industrial stage of an adolescent's life. There is no doubt that the change from the school environment where his well-being and progress are the main interest of those in control, to an environment where he is more of a cog in an impersonal organization, is the first and one of the major psychological stresses which the adolescent has to tolerate.

That school life should prepare the way for a satisfying life in employment afterwards has, I am sure, been thought about deeply by the majority of educationists. In the Education Act itself the wording of the paragraph on the purposes of a statutory system of education suggests that primary education must be something more than the acquisition of the three R's.

> . . . it is the duty of every education authority, so far as their powers extend, to contribute towards the spiritual, moral, mental, and physical development of the community by securing that efficient education shall be available to meet the needs of the population of their area . . . the education arrangements must afford for all pupils opportunities for education offering such a variety of instruction and training as may be desirable in view of their different ages, abilities, and aptitudes, and the different periods for which they may be expected to remain at school, including practical instruction and training appropriate to their respective needs.

It is, I think, fair to say that a good deal has been done in our education system to ensure that a practical education is given to children who do not wish to proceed to a higher school or a university education. This is all very well as far as it goes but I am convinced that the abrupt change from even a practical school to industrial employment necessitates at the present time too great a change in personal values and relationships to be assimilated comfortably by the adolescent unless he is given some support during the change-over.

Abstract of an address given at a special mental health course arranged by the Birmingham Centre of Nursing Education.

Linking of Education and Employment

It is sobering to think that as long ago as 1918 legislation under the Fisher Act provided for the statutory provision of continuation schools and the compulsory education at these of all adolescents between the ages of 14 and 16 years who were not attending school full-time for higher education. I know of only one school set up under this Act which is still in being—the day continuation school at Rugby. Several industrial firms have set up their own day continuation schools—Boots of Nottingham, Cadbury's of Bournville, and Clark's of Street, Somerset. There education and employment proceed hand in hand.

The 1944 Education Act embraced an ambitious scheme of further education through the provision of county colleges for employed adolescents. This portion of the Act has, unfortunately, not been implemented and it now looks as if the State is ignoring one of the most important and progressive items of legislation of the century.

Vocational Guidance

Equal in importance to linking education and work is identifying the sphere and level of industrial work to which an adolescent emerging on the labour market is best fitted. To take a job for which he or she is not fitted, either physically or psychologically, and to attempt to carry on with it, imposes very great stress on the juvenile. If allowed to continue in any such unsatisfactory occupation failure is inevitable with all its undesirable consequences. These fall most heavily in the psychological sphere; loss of confidence, uncertainty, and the sense of defeatism which accompany such an experience may continue to colour much of the adolescent's future life.

The need for providing some advisory service to help young people about to enter industry to choose their employment aptly was recognized as long ago as 1909 when special juvenile departments were included in the labour exchanges set up in that year. In 1910 local education authorities were empowered to set up advisory bureaux to help juveniles in the choice of employment. The responsibility was thus divided and difficulties arose in the administration of the scheme, which have continued until recent years. At the present time the juvenile employment service is administered by a central youth employment executive responsible to the Ministry of Labour and National Service. On this executive the

Ministry of Education and the Scottish Education Department are represented.

This vocational advisory service functions through youth employment officers who visit schools and in consultation with teachers formulate advice as to the future employment of children about to leave school. The Youth Employment Service is also responsible for disseminating information about careers in schools. There is no element of compulsion in the advice given by this service therefore it is important that there should be opportunities for follow-up interviews and advice on current difficulties to adolescents who have actually taken up employment.

The work of the Youth Employment Service is handicapped in three ways. First, the youth employment officer does not have the same opportunity as the teacher for getting to know the child and winning his confidence. Secondly, he has to accept industrial conditions and practices as they are and simply do the best he can to fit young people into such openings as are available. Thirdly, accurate information about jobs is not easy to obtain. Job titles may mean different things in different firms and different industries, and the science of job analysis which would give full information about the jobs has not been significantly developed in this country. Despite these handicaps the Youth Employment Service does a great deal of valuable work both in the prophylaxis of industrial strain on juveniles and in helping those who, having started work, get into employment difficulties.

Other Factors in Choosing a Job

How great, it is fair to ask, is the influence in the early employment situation of the adolescent's parents, relatives and friends? They undoubtedly influence his initial choice of employment greatly. Parental advice is occasionally sound; very often it is not. Some parents see their children only as an additional source of income and they are concerned more with the size of the young person's wage packet than with the manner in which it is earned. Parents in the more ignorant sections of the community usually advise their children about employment in terms of their own, often unfounded, prejudices. Better-informed parents all too often insist on the young person taking up work of a kind in keeping with their own ambitions for their child, rather than of a kind compatible with the child's real level of ability and his aptitudes.

A survey carried out by Lloyd Davis in 1952 showed that in determining the choice of a job the most important factors were (i) relative at work, (ii) the good reputation of firms, and (iii) particular job preferences. It is interesting to note that security in employment and good promotion prospects came lower in the list of reasons.

Social Progress within Industry

Looked at from within, so to speak, it will be found that industry has its own attitudes, values, and practices in the management of adolescent employees. To understand the situation within industry one has to take into account the past history of juvenile employment and to see how the present position has evolved gradually throughout the years, reflecting the social enlightenment and progress in the country as a whole.

In the early days of industrialization in this country human well-being was largely ignored and until the public conscience was aroused inhuman demands were made on young workers. As late as the 18th century children of parents unable to support them were employed in workhouses at ages from four to six years. Of those who survived, many at the age of seven to 12 years were transported in cartloads to the mills in the Midlands and the north of England. They were required to work from 6 a.m. to 7 p.m. with only 30 minutes allowed for eating and recreation. Living in quarters adjacent to the mills, the death rate among them was 60 per cent. to 70 per cent. per year. Only gradually during the 19th century were conditions improved and abuses of this kind forbidden by law. In occupations other than factory employment the position was only slightly better and young workers taken into offices and banks were required to work excessively long hours in poor conditions with little or no remuneration. In these latter occupations child and adolescent exploitation were disguised in a cloak of respectability and often a premium was required before a young person was accepted into such employment.

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Improvements in the employment conditions of juvenile labour came about gradually and were in the main secured through legislation resulting from the pressure of public opinion. A succession of Acts on the subject have come into force since the original Health and Morals of Apprentices Act 1802 and the Act to Regulate the Labour of Children and Young Persons 1833. Under the second of these, medical certification of fitness for employment was required in respect of children aged between 9 and 13 years. Under the 1948 Factories Act this provision for medical examination was extended and the 'appointed factory doctor', as the examining doctor is now styled, must examine all adolescents between 15 and 18 years within two weeks of their taking up factory employment and afterwards annually to the age of 18 years. He has the power to forbid any of these young workers to continue in any particular job if he is not satisfied with their level of health. It is true that many employments are not covered by the Factories Act. This will no doubt be remedied in time. Many employers have voluntarily set up their own medical services and include facilities in these for the medical examination of their young employees.

As a result of so much safeguarding legislation we have progressed industrially beyond the point when the physical well-being of the adolescent worker is likely to be threatened by the physical stresses of factory work. It is true that there are still substantial differences between the physical demands of industrial life as compared with those of school. A greater number of hours have to be worked per week—42½ as compared with 27. A working day normally starts at 7 or 8 a.m. instead of 9.30 a.m. and continues until 5 or 6 p.m. instead of 4 or 4.30 p.m. Breaks for meals and recreation total two to two-and-a-half hours at school as compared with one-and-a-half in industry. Travelling is often over longer distances. Holidays are shorter and recreational facilities on the whole fewer. These additional purely physical demands of an occupation are not formidable and should not present any real obstacles to the healthy adolescent.

Apprenticed and Non-apprenticed Employment

Despite the progress which has been made I do not think we can yet be complacent about all the circumstances of the adolescent in industry. Too little provision is made to ensure that adolescent workers are placed in

jobs which are suited to their abilities or that their potential skills are developed to the full through opportunities created by industry. It is true that under apprenticeship schemes selected youths are trained both for management and for a great variety of specialized trades. If the initial choice of the nature and level of the apprenticeship has been apt, the early industrial life of this group of adolescents is one in which human relationships and values are sufficiently like school life to enable a gradual orientation to industrial life to take place. The stress of sudden change is thus eliminated.

Large numbers of adolescents enter industry without the opportunity of an apprenticeship and it is in this respect that industry can be said to be most lacking. The best that these unapprenticed adolescents can look for is the opportunity of gaining experience in some particular branch of skilled work, often of a mass production type, and so of building up some kind of industrial experience which they will be able to follow throughout life. Unless adolescents of this category are particularly enterprising and attend night school, they learn little in industry beyond the robot performance of a few repetitive manual tasks. One has only to ask a sample of the large number of machine-minders in industry something about their work to find out how very limited their range of occupational knowledge is.

Potential Reservoir of Skill

Recent statistics published by the Ministry of Labour (1956) indicate that the numbers of adolescents leaving school at the age of 15 years to enter industry is large (see Table 1) and that three-fifths of these do not take up employment as apprentices or learners in skilled crafts or employment known to lead to apprenticeship (see Table 2).

It is difficult to say with any certainty why this large potential reservoir of skill should remain untapped. A proportion of these adolescents who take up unskilled work, it is true, might not have the native ability to make progress and to assimilate readily new knowledge. These, of course, are not the kind of people who become discontented and create tensions within industry as, already being employed to the maximum of their capacity, they are content. In the ranks of the others there are, I am sure, many with ability who are capable of a progressive career. It may be that industry is conservative and runs in a certain groove of tradition. The aim of all industrial activity is, of course, to make profits and in a competitive world this aspect dominates the thinking of industrial management. Each factory or business feels that it requires a stable labour force and so any scheme that would lead to the advancement of a significant portion of its workers beyond the level of repetitive manual tasks might be regarded as an unsettling factor. Again the argument might be advanced that there would be no employment for this group of workpeople other than repetitive tasks.

The trend in industry, too, is towards ever more mechanization, less and less being left to the judgement of the operator. On the other hand more and more complex machines and production methods are being introduced daily into industry, offering in their understanding and use endless scope for the employment of human ability. Personally I feel sure that much good would come from even a fairly narrow and specialized industrial education, centring around the understanding of production machinery and methods, particularly in the case of this group who would otherwise simply continue to push the buttons and pull the levers of their machines. Not the least of the benefits would be that able men and women would derive satisfaction from having the opportunity to demonstrate their true level of ability in their jobs and so be justified in seeking employment with responsibility commensurate with this.

The Problem of Monotony

We hear a good deal about the monotony of repetitive employment in industry and how heavily this bears on the adolescent worker. There is a good deal in this. Adolescence and utter monotony are quite incompatible. The developing mind must be fed with stimulating and varied work experiences if it is not to seek opportunities for diversion in mischievous behaviour or, in the case of adolescents with less sound personalities, in unsocial acts or introspective daydreaming. The arguments in favour of a careful study of each intake of adolescent labour followed by supervision and training to the limit of each one's ability are overwhelming.

Innovations such as 'Music While You Work', specially arranged rest breaks and the provision of special conversation opportunities for those employed on monotonous work are all very well, but I am sure that they are simply evasions of the true issue and no substitute for the provision of satisfying work to the worker with ability. To my mind there is something improper in deadening the mental processes of intelligent people with distractions such as 'Music While You Work', merely to make work for which they are really unsuited tolerable to them.

TABLE 1—Industrial Intake of Adolescents for 1955

Age at leaving school	*Age at entry into employment*			
	15	16	17	*Total*
Boys:				
15	214,053	2,947	327	217,327
16	—	33,473	825	34,298
17	—	—	7,995	7,995
Total ...	214,053	36,420	9,147	259,620
Girls:				
15	202,572	2,830	513	205,915
16	—	30,595	857	31,452
17	—	—	10,758	10,758
Total ...	202,572	33,425	12,128	248,125

TABLE 2—Analysis of Numbers Entering Certain Categories of Employment in 1955

Class of employment entered	*Age at entry into employment*					
	Boys			Girls		
	15	16	17	15	16	17
				000's		
Apprenticeship, or learnership, to skilled crafts (including employment leading to apprenticeship) ...	78.1	15.7	3.0	12.6	2.0	1.0
Employment leading to recognized professional qualifications	0.8	1.5	0.9	0.8	0.9	0.9
Clerical employment	10.7	8.6	2.3	55.0	21.5	6.9
Other employment ...	124.5	10.6	2.9	134.2	9.0	3.3
Total ...	214.1	36.4	9.1	202.6	33.4	12.1

Other Factors

Despite all that might be done in industry there are two background factors which have a tremendous effect on the performance of the adolescent at work. First there are the family background and the circumstances and outlook of the parents. These affect both choice of employ-

ment and performance in it. I have referred earlier to the fact that some parents have little interest in what their children do, only in what they earn. If the parents are also shiftless and lazy their offspring tend to lack an appropriate sense of their responsibilities in work. An intensive investigation of 1,300 Glasgow boys carried out over a period of three years by Ferguson (1951) shows this very clearly. Secondly there is the economic state of the particular industries in the adolescent's locality. Industry has to be competitive and if there is an industrial depression this of course alters the whole picture of what the adolescent's opportunities can be. The industrial experiences of the 1930's serve to remind us of this and the fate of the young worker in conditions of unemployment such as existed then is a sad one.

On this subject a report, *Disinherited Youth*, published by the Carnegie Fellowship in 1941, stated: "if it is your fate to be born in a poor home, of a large family, in a poor neighbourhood, of a father whose livelihood is subject to unemployment, the chances are that you will have a minimum of education, that you will receive no training, that you will enter the industrial world through a series of blind alley jobs and that you will eventually, like your father, become unemployed." It is well to remember that the industrial situation referred to in this report existed in the lives of many who are parents today. Since the recent world war the industrial picture has been one of full employment. This has enabled all adolescents leaving school to have employment and even a choice of employments without the over-riding effects of mass unemployment. The relative scarcity of adolescents has made the employers of labour think more of the best utilization of their juvenile intake. Much good may come of this, especially if employers become aware that the best utilization of their labour force is the most profitable one.

Prospects for the Future

Inevitably industrial progress will continue and the future should hold greater and more interesting opportunities for young people entering industry. Industrial progress will however depend for its achievement on the wider development of greater knowledge and skills in the nation's labour force. There is at present a cry for more skilled engineers, industrial scientists, and effective salesmen, and this will continue. Universities are being expanded and technical schools increased; but too little perhaps is being done to link these educational facilities with industry in a way which will ensure that the very large number of adolescents who leave school at 15 years on impulse, or for any of the other reasons mentioned above, and enter unskilled unprogressive industrial employment, may benefit from them. Industry itself must play a part in ensuring that the potential skills of these young workers are developed by giving more individual attention to all sections of its annual adolescent intake. Should this come about emotional disturbances through occupational maladjustment will largely disappear.

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Book Reviews

Today's Industrial Nurse and Her Job

A Study of the Functions of Nurses and their Relationship to Industry.—by Erna Barschak, PH.D. (*G. P. Putnam's Sons, New York, 42, Great Russell Street, London, W.C.1, 26s.*)

As nurses we tend to be engaged essentially on a practical job which absorbs our time and energies. We seldom take stock of our achievements, evaluate our methods or review our aims. Occupational health nurses, working isolated from professional colleagues and in organizations with a structure and objectives so different from those obtaining in hospital, are particularly liable to work with limited horizons.

Today's Industrial Nurse and Her Job is therefore a healthy portent. It is an attempt to view the subject objectively. The nurse's background, her work as seen by herself, her employer and the workers, her status within the factory, to whom she is responsible and her relations with the physician are all examined and the result makes thought-provoking reading.

The study was financed by nurses who secured the services of an expert to carry out the survey. It is easy to quarrel with the sample; like ourselves, the American nurses do not know how many nurses work in industry, nor where, and of those located nearly 40 per cent. did not respond to the invitation to participate. Yet, even if it would be rash to say from such evidence that a true image of the industrial nurse has been secured, the picture presented undoubtedly reflects many features as familiar here as in the Ohio Valley where the survey was made.

Three techniques were employed to obtain the desired information: questionnaires were mailed to each nurse known to be working in industry in the area and a similar type of questionnaire to a 10 per cent. random sample of workers in one particular firm. Dr. Barschak also interviewed employers, nurses, physicians and workers in 53 out of the 130 firms whose nurses had received questionnaires. The questions were modelled on those in the questionnaire, giving a useful check on the reliability of the responses and illuminating differences in the concept of industrial nursing as envisaged by nurses themselves, their employers, colleagues and clients. Finally, personality tests were given to a limited number of volunteers from among the nurses when it became evident how much the success of the work undertaken by a nurse in industry depended on personality traits.

The findings of the study constitute a worthwhile attempt to explore an aspect of nursing work about which all too little is known with certainty. Theories and aspirations are constantly formulated but firm factual foundations as a basis for determining policy are lacking. The need to know ourselves and evaluate our work is too seldom recognized as a part of our normal duties.

While we cannot all plan surveys, finance research or organize investigations on a big scale, we can each of us keep accurate records, study them intelligently and share our findings by writing them up. Finally, we can see that new ideas are discussed, tried out and where appropriate incorporated into our daily practice.

H. M. S., B.A., S.R.N., INDUSTRIAL NURSING CERT.

The Hospitals Year Book, 1957

(*The Institute of Hospital Administrators, 75, Portland Place, London, W.1, 52s. 6d., postage 1s. 9d.*)

The present edition of this invaluable reference book again provides an authoritative and comprehensive work

covering all aspects of the administration and management of hospital and allied services in the country. The hospital directory sections give particulars of all hospitals and hospital authorities in Great Britain, Northern Ireland and the Isle of Man. Other sections include particulars of blood transfusion services, Government departments, statutory bodies and organizations concerned with hospital and health services, local health authorities, executive councils, the National Health Service Whitley Councils, and hospital contributory and provident schemes. Hospital administrators will also find the detailed indexes to statutory instruments and official circulars of practical help.

In the annual review of hospital service developments the editor, Mr. J. F. Milne, comments on various recommendations of the Guillebaud Committee, and other matters referred to in the review include hospital costing, the reorganization of hospital groups, relations between regional hospital boards and hospital management committees, administrative and other staffing problems.

Books Received

Aids to Tuberculosis Nursing (fifth edition).—*by L. E. Houghton, M.A., M.D., and T. Holmes Sellors, D.M., M.Ch., F.R.C.S., with a special chapter contributed by E. T. W. Starkie, M.B., B.Ch.* (*Baillière, Tindall and Cox, 8s. 6d.*)

An Introduction to Therapeutics for Chiropodists.—*by Peter J. Read, F.Ch.S.* (*Baillière, Tindall and Cox, 25s.*)

The Welfare of the Disabled. Selected Papers. (*The National Council of Social Service, 5s.*)

'The Hurt Mind'—B.B.C. Television Series (*concluded*)

THE B.B.C. television series, *The Hurt Mind*, which consisted of five weekly programmes on mental health, ended on January 29. A brains trust of four distinguished members of the medical profession answered selected questions sent in by the viewers, and the chairman was Christopher Mayhew, M.P. Besides the panel, a further guest, Sir Geoffrey Vickers, V.C., who is treasurer of the Mental Health Research Council, spoke very hopefully on the subject of future research, although he must have been a little disappointed to learn that out of the hundreds of letters sent in as a result of this programme, only one contained an inquiry about research.

Viewers' Questions. Questions sent in by viewers could be divided roughly into groups First of all, administration: the evils of overcrowding, the lack of segregation (mild cases having to mix with chronic sick) and the blocking of hospital beds by the aged and infirm who were not necessarily mentally sick. Replies from the panel included the following suggestions. That more clinics where outpatient treatment could be given would help; that there was a greater need for small units in which to treat the mentally sick, rather than building larger mental hospitals; more half-way homes for the aged which provided shelter that was neither a mental hospital, nor yet a general hospital. A few had been started but many more were needed.

General Practitioners. The next group appeared to contain various complaints about unsympathetic general practitioners. Advice such as "Pull yourself together" or "Big strong chap like you!" etc., seemed to have been the experience of many viewers; one man said that after a year of such advice his doctor had finally given him the address of the nearest mental hospital.

The panel felt that the majority of family doctors had not had the opportunity to study emotional problems and psychiatric illnesses under such ideal conditions as the young students of today, and really did feel that they had not the time to spare for this particular type of patient, that, in fact, they were far too busy. The obvious advice in this case, was to change the doctor.

Certification. Several letters had contained questions about certification, and patients being wrongfully detained, coupled with requests for advice to relatives on how to get them out. The panel explained that a superintendent scarcely ever refused a relative's request to remove a patient from his care, unless he knew the patient to be dangerous, but even so, they could still appeal to the management board, and if three members of the management committee agreed to the discharge, then the superintendent could do no more about it. The chairman reminded viewers, however, that most of these letters had come from people whose relatives were in mental deficiency hospitals, while this programme had been intended only to deal with problems arising out of mental illness and mental hospitals.

Nurses. Many letters bore tribute to the fine work done by the nursing staff in various hospitals, one or two only complained of the callous and neglectful behaviour of nurses in mental hospitals. Quite a few asked for help in rehabilitation, and the panel responded with sound helpful advice on every point, stressing the importance of relatives treating the discharged patient as a normal individual on his return, discussing his illness and his recovery with him, not regarding it as 'hush-hush'.

Summing Up. Christopher Mayhew, in summing up, spoke of the depth of misery which always accompanied mental illness, thus adding to the complications. He maintained that not housing shortage, juvenile delinquency, wage claims and strikes or petrol rationing, but mental health, was the biggest social problem needing to be placed before the Cabinet. Statistics showed, he said, that 80 per cent. of absenteeism in industry was due to by-products of mental illness alone. In comparison, only $3\frac{1}{2}$ per cent. was due to strikes, and yet the general public as a whole tended to ignore this very critical state of affairs, and each year at least 5,000 people in England took their own lives. How long was this apathy and ignorance to be allowed to continue?

What of the Future? Well, possibly these programmes are only just the beginning. Mr. Mayhew's very moving speech cannot have fallen on many deaf ears. I would have liked to have heard that the bulk of these questions came from people who had never had personal experiences of this problem but, stimulated by this programme, had become interested enough to inquire. Instead of which, we were told that the majority of letters had been sent by patients themselves, or by relatives, and only one asking 'What of the future?'

A great deal of work must have gone into the compiling of this series. There was so much needing to be said, and yet so little time to say it in; which things should be left out? How much dared be shown? The results however, were well worth while, and I feel sure that soon there will be a demand for more of this kind of series. One thing I wondered about—whether it would have been more useful to have had less programmes, but more time allowed for each session; all the guest speakers were leading medical men, and one felt that their visit was so fleeting.

A. H. B.

SISTER TUTOR SECTION WINTER CONFERENCE, ROYAL COLLEGE OF NURSING

Personality and Perseverance in Achievement

Mr. H. B. Miles, addressing the conference with, left to right, Lady Williams, chairman, and Professor H. J. Eysenck.

LADY Williams, professor of Social Economics at Bedford College, University of London, took the chair for the day conference on Saturday, January 19. Professor H. J. Eysenck, director, Psychology Department, Institute of Psychiatry, and Mr. H. B. Miles, lecturer, Education Department, University of Hull, were the speakers. Over 180 tutors had come from all over the country and they met in small discussion groups after hearing the speakers.

The subject of personality and perseverance in achieving one's aim was one of the most important facing the nursing profession today, said Lady Williams, as we had to realize that human ability was one of the most precious of our national resources. We must neither waste ability nor, on the other hand, try to make people undertake what they were not competent to do. We must try to discover those people who could do the job and those who might develop the capacity. First, therefore, we must ask what capacities were needed in that particular job. Hospitals were disturbed at the number of student nurses who failed to complete their training and it was difficult to know how best to select those who would be happy in the work and likely to make good nurses.

Professor Eysenck had made a special study of the analysis of personality and would discuss how far it was possible to assess the qualities that made up a personality. Mr. Miles had carried out an inquiry on nurses studying to become tutors and related his findings to their subsequent achievement in the university examination for the tutor diploma.

Selection Tests to Reduce Wastage

There was considerable wastage in any profession, said **Professor Eysenck.** Some was inevitable but the Working Party Report on Recruitment and Training of Nurses had shown that among student nurses the wastage rate was unnecessarily high and could be lessened by suitable methods of selecting candidates. Psychological tests could show which were more likely to fail to complete the training course. In preparing the selection tests there were three stages: (1) formulation of a hypothesis as to what abilities and temperamental traits were required for success in the work; this would be based on all the information available and opinions of people experienced in the work; (2) the construction of tests to permit measurement of the relevant variables; (3) application of these tests to large numbers of people already in training, and comparison of the results given by the tests with the actual achievement of the students. The tests could then be accepted or rejected depending on the accuracy of their prediction. The investigation was empirical and some tests apparently absurd did appear to give useful results. Such tests were objective, giving factual results, whereas those dependent on observers' judgment were unreliable as the performance of one candidate could be judged quite differently by different judges. The important decision was what should be the criterion by which to measure the test.

Another difficulty in deciding on selection tests for nursing was that there was disagreement as to what the work of the nurse really was. One analysis had shown that only 1½ per cent. of the nurse's time had been spent on work which the authorities had stated took up 30-50 per cent. of her total time. There was frequently a wide discrepancy between what staff were doing and what the authorities thought they were doing.

Examination results were supposed to relate to future success. But examinations were a test of intellectual ability rather than of those temperamental and personal qualities of value in nurses; the relationship between examination results and future success and happiness in nursing had not been found to be very close.

The best method of finding a criterion was to obtain independent ratings on a detailed basis from a number of experienced people. First all the terms used must be defined; all the factual information on which each judgement was to be based must be set out. Each would then give independent ratings and the results would be compared. If suitable specially selected people, qualified and instructed, were chosen to do the ratings, then a reasonable criterion could be obtained.

Temperamental qualities were important and were not closely related to examination results. If the candidate was emotionally unstable and easily flustered, however intellectually able, she would not be able to apply her ability in a situation of stress. Temperament was much more difficult to measure than intellectual ability. Interviewing was not a good procedure for assessing temperament and results did not relate at all closely to the reality. In an interview of an hour or even longer a fair guide as to success or failure could not be gained. There were now a number of psychological tests available which could be used with greater success. Most of these related to the simple fact that in the emotionally unstable

the autonomic nervous system was over-labile; it reacted too readily, too strongly and for too long. Therefore, emotional reaction to stress could be measured by the physiological reactions such as heart beat, electrical conductivity of the skin, etc.

Refined tests for use in special laboratories had been devised; one example was making the candidate talk into a microphone while at the same time through earphones he heard what he was saying but $\frac{1}{5}$th of a second later. This was a severe strain and the emotionally unstable person over-reacted. Such tests were not, however, usually possible when large numbers of people had to be tested. Simpler tests were based on the fact that emotional tension reacts on the muscular system and interferes with manual dexterity. Thus tests demanding rapid hand or finger movements showed marked differences in achievement if emotional stress was felt. Poor co-ordination and muscle tension interfered with dexterity and the degree could be measured.

Another test, not advised for nurses, but which had been used in selecting policemen, was the stress interview. The candidate was given a mechanical task to perform and his ability measured. A stress interview was then given, rousing him to anger or fear of failure, and his performance again measured, noting the drop in skill and speed and for how long this continued after the disturbance.

How far could psychological tests improve selection? If selection already gave 75 per cent. successes and 25 per cent. failures, with the use of proper tests this could be improved to give up to 90-95 per cent. successes. Thus the level of success could be improved by 15-20 per cent. But, this depended on the suitability of the tests and the qualifications of the person supervising them, also on adequate numbers coming forward from whom the candidates could be chosen. Given those three factors good selection was relatively easy to obtain.

Factors Governing Academic Achievement

Mr. Miles said he would deal only with a restricted part of the conference subject as the inquiry he had carried out referred only to academic achievement as measured by success in a university examination and only to a particular group of adult students preparing for the University of London Sister Tutor Diploma.

For the purpose of an inquiry on selection of students for nurse tutor courses over 100 student tutors at three training centres were tested and questioned. Finally their examination marks were compared with their test results.

"The primary purpose of the inquiry was to try to lay bare the factors governing academic achievement, as measured by success in the examination", said Mr. Miles. "Academic success is related to intellectual ability and this kind of ability—cognitive ability as it is called—can be estimated (pretty reliably among children and less reliably among adults) by means of so-called intelligence tests, both verbal and non-verbal, and by means of tests of comprehension and general information. In the beginning it seemed that adult students, however able, might suffer academically because they were out of practice in academic matters. Consequently my initial thinking in the inquiry was directed towards the determination of basic non-verbal intelligence, verbal intelligence, reading speed, speed of comprehension, sentence structure and so on.

I was interested in mental speed and accuracy and persistence, which are attributes of personality, but in general terms it seemed likely that personality would not be an important factor because the group concerned had already been highly selected for personality characteristics by the exacting nature of the profession in which they had already advanced to senior posts.

A section of the audience.

Adults as Students

However, as experience grew, this opinion was revised and it began to appear that adults as students are subjected to a great deal of strain—a good deal of psychological buffeting which younger students escape. It began to appear that among adult students a stable, well-balanced and integrated personality might well be more important in determining academic achievement than it is with younger students.

It appeared that acute anxiety and depression relating to academic work was much commoner among adult students than among those of normal age. This seemed to me, after discussions with such students, to be due to extreme motivation. In coming on a full-time course of study extending over two years, adults feel that they are staking a great deal in terms of time, money, reputation and so on. This may well make them feel that it is desperately important that the course should have a successful outcome. It may lead students to attack their studies with almost obsessional vigour. Extreme motivation is bound to engender anxiety and depression, and in cases known to me perfectly able students have withdrawn before completing their courses because they could not stand this particular kind of strain. Most anxious students, however, persist and take and pass their final examinations.

There was also another main way, it seemed to me, in which adult students were under such strain as to put a premium on the stability of their personalities.

In becoming full-time students adults undergo an abrupt, even profound, change in the circumstances of their lives. They leave a secure and assured niche in a familiar environment for a new and strange one where the qualities leading to success and security are very different.

Observation and discussion suggested that the kind of things which adult students found difficulty in adjusting to were as follows.

Some disliked the status of student and had difficulty in adapting themselves to it after holding responsible senior posts.

Some found lodgings irksome and an unsatisfactory environment after the well-ordered surroundings and central heating of the hospitals from which they had come; or in some instances after the comforts of their own homes.

Some were extremely homesick—homesickness can be much more severe at 35 than at 15. Married men students in particular appeared to be especially distracted by sick-

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POLIOMYELITIS VACCINES

by ALAN P. GOFFE, M.B., B.S., DIP.BACT., Virus Department,
Wellcome Research Laboratories, Beckenham, Kent.

POLIOMYELITIS has been known since ancient times. An Egyptian stele of the 13th century before Christ now in the museum at Copenhagen shows an individual with a withered leg, almost certainly a recovered case of paralytic poliomyelitis. However, it was not until the early 19th century that cases of paralysis among children were studied seriously. By the end of the 19th century infantile paralysis was a well known if not very common disease.

Since the turn of the century this country, in common with other civilized nations, has experienced an increasing incidence of poliomyelitis. We are now faced with annual epidemics, mostly during the late summer and autumn. Twice since the end of the war, in 1947 and in 1950, the number of notified cases has approached 8,000 in the year. And as we look around the world we find that in nearly every country the average yearly incidence of poliomyelitis has risen, more particularly in the last century, and more so in those countries with advanced standards of living and hygiene. Moreover, in all of these countries the proportion of cases in the older age groups has risen, and in many of the older patients the disease takes a particularly severe form with involvement of muscles served by the cranial nerves resulting in paralysis of swallowing and breathing.

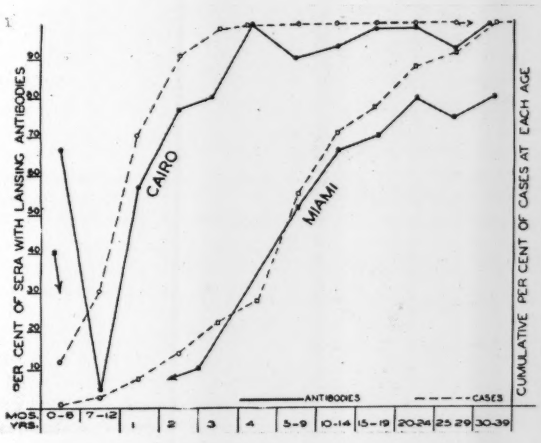


Fig. 1. *Comparison of Type 2 neutralizing antibody pattern with cumulative attack rate of poliomyelitis in two subtropical areas.*
(From data of Paul, Melnick and Riordan[14])

The explanation of this remarkable change in incidence and character of the disease is now largely known. The problem can be resolved into three parts. First, why are there more cases now than formerly? Secondly, why does it affect older people? Thirdly, why is it more severe?

Differing Patterns of Infection

The differences between poliomyelitis today and formerly are precisely those which distinguish civilized and primitive countries today. It has been largely due to study and comparison of the differing patterns of infection today in civilized and in primitive communities using modern laboratory techniques, that we have come to understand how the change in pattern in one country has developed over the years. It has been found that in countries with relatively low standards of sanitation, such as Egypt, there is a very high incidence of infection with polioviruses in the early years of life. This is not unexpected when one remembers that poliovirus usually infects by entering through the mouth and that the largest quantities of poliovirus excreted by an infected person come out in the faeces. Low standards of sanitation permit ready transmission of poliovirus from an infected individual's faeces to the next susceptible individual. Improvements in sanitation enjoyed by civilized countries have cut down such excremental diseases as dysentery and typhoid fever. They have also reduced the rate of poliovirus infection in infancy.

If one examines in the virus laboratory a specimen of blood serum from an individual it is easy to tell whether he has had a past infection with poliovirus by noting the presence or absence of specific antibody. If groups are selected from different ages in the community and compared with regard to the number who show antibody, we can construct a picture of the average rate of infection in that community. For example, in England about 70 per cent. of infants are born with antibody to Type 1 poliovirus. This antibody they have acquired passively from their mothers across the placenta and the immunity is only transient. Around one year old about one in every six babies has had an infection and the percentage rises slowly with age. About half have experienced infection by the age of seven years. Comparatively speaking this is a slow rate of infection. Figure 1 shows a comparison of two communities, Miami in the U.S.A. with a high level of hygiene, and Egypt at the other end of the scale. It can be seen that in the Egyptian community virtually everyone acquires infection in infancy; all the cases that are noticed occur at this age and thereafter everyone else is immune. In the other group a much higher proportion escapes infection in infancy, some remaining susceptible throughout childhood to adulthood. We are not surprised when we find the incidence of cases coincides with that of antibodies. The effect of civilization, or of improvements in sanitation and personal hygiene, has been simply to postpone infection to a later age.

It is just possible that the civilizing process could be carried through to its logical conclusion of almost perfect hygiene. Under such circumstances cross-infection between individuals would be at minimum and spread of virus would not take place. But in present-day society and in the foreseeable future this is not likely to happen for several reasons. It is known that spread takes place exclusively among human beings, that is to say, animals or insects do not act as intermediate hosts. Methods for telling whether an individual is or is not a carrier of virus are laborious, costly and uncertain. In many parts of the world there are countries with a high level of endemic

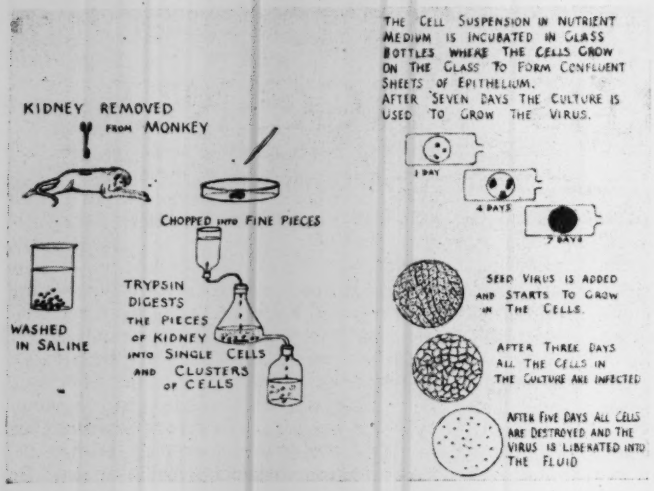

KIDNEY REMOVED FROM MONKEY
CHOPPED INTO FINE PIECES
WASHED IN SALINE
TRYPSIN DIGESTS THE PIECES OF KIDNEY INTO SINGLE CELLS AND CLUSTERS OF CELLS
THE CELL SUSPENSION IN NUTRIENT MEDIUM IS INCUBATED IN GLASS BOTTLES WHERE THE CELLS GROW ON THE GLASS TO FORM CONFLUENT SHEETS OF EPITHELIUM.
AFTER SEVEN DAYS THE CULTURE IS USED TO GROW THE VIRUS.
1 DAY
4 DAYS
7 DAYS
SEED VIRUS IS ADDED AND STARTS TO GROW IN THE CELLS.
AFTER THREE DAYS ALL THE CELLS IN THE CULTURE ARE INFECTED
AFTER FIVE DAYS ALL CELLS ARE DESTROYED AND THE VIRUS IS LIBERATED INTO THE FLUID

Fig. 2. *Diagram of the method of tissue cultivation used to grow poliovirus for making into vaccine.*

infection. It is not possible to regulate or restrict transit of persons to and from these areas. Inside any one 'civilized' nation there are groups with a high level of infection which can and probably do serve as centres for the spread of infection to other sections of the community. It is also known that spread takes place with great ease inside a family; it is the rule to find that all the susceptible members of a family are infected whenever a case occurs. For unknown reasons the summer season appears to favour the spread of infection. Possibly conditions which may limit spread in wintertime may not be so effective in the summer. In short, poliomyelitis is always with us and will remain so long as we have both centres of infection and susceptible individuals.

Increasing Severity with Age

If the consequences of infection were at least as mild in later life as in infancy, the postponing of infection would be of little importance. Unfortunately this is not the case. The older a child is when he encounters his first infection with poliovirus the more liable he is to develop paralysis. It is well known that virus infection may take four different forms. It may be completely *symptomless*; it may be *abortive*, giving rise to transitory malaise, a day or two's fever, slight headache or soreness of throat; it may be *non-paralytic*, with evidence of meningitis and sometimes transient encephalitic or paretic symptoms, from which recovery is complete; or it may be *paralytic*, with permanent loss of function of a greater or lesser part of the body musculature.

A number of virus diseases show the phenomenon of increasing severity with age; the nearer an individual is to adulthood the more severe his attack is likely to be. In polio this is shown in two ways. A higher proportion of those developing infection develop the paralytic form. Also a higher proportion of the paralytic cases show widespread involvement of muscle groups. Without discussing the reasons for this any further, it is clear that the situation for a civilized country is dangerous and likely to worsen. Our improved sanitation makes it more and more likely that the average individual will have his infection with poliovirus at an age when he stands a greater chance of having a serious instead of a mild attack. I see no reason why the outlook for the so-called under-developed nations trying to improve their own lot should differ from the experience of this country. I would predict an increase in the incidence of poliomyelitis in any country that improves its sanitation.

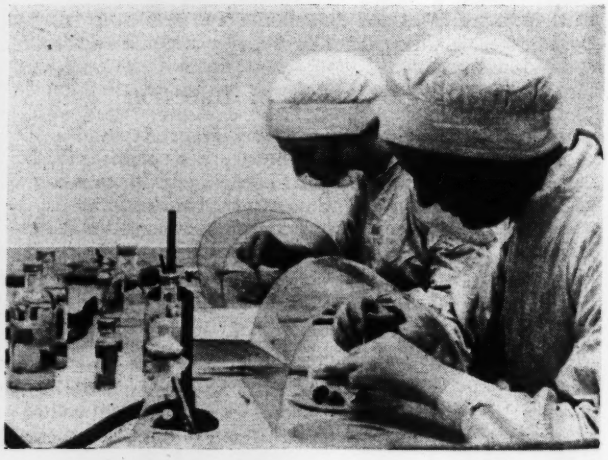
Admitting the failure of hygienic measures we can, however, break this vicious circle in two possible ways. We can return to widespread infection of the younger age group by the artificial dissemination of virus, using attenuated strains, or we can make the susceptible members of our community immune by the use of artificial vaccination. Research in poliomyelitis has now progressed considerably along both of these lines. Before examining in detail the types of vaccine available today let us see how they developed.

About 90 years ago the germ theory of disease took shape as a result of the researches of Pasteur and Koch. With the cultivation of one bacterium after another many diseases were seen to be caused be microbes. Sixty years ago Loeffler and Frosch showed that foot and mouth disease of cattle was caused by something which could not be cultivated on dead medium and which passed through the finest filters capable of retaining bacteria. This discovery, called 'a filterable virus', was quickly followed by many others. Then, 50 years ago that great Viennese scientist Karl Landsteiner, better known as the discoverer of blood groups, injected an emulsion of spinal cord from a fatal case into the brain of a monkey; the monkey developed typical paralysis and thus poliomyelitis was added to the list of filterable viruses. Much was learned about the disease using monkeys as experimental animals, but work was limited by the high cost of monkeys and the difficulty of handling these large animals.

Ten years ago, towards the close of what has been called 'the monkey era' of poliomyelitis research, the important discovery was made that there were three immunologically distinct groups of poliovirus. That is to say, there are three antigenic types, known as Types 1, 2 and 3, and all the known strains of poliovirus in the world belong to one or other of these types. Infection with a strain of Type 1 virus is followed by immunity to all other Type 1 strains, but not to strains of Types 2 and 3; likewise Types 2 and 3 do not protect against each other nor against Type 1, but only against infection by the same type.

It became obvious at once that any vaccine would have to contain all three types, and that a preparation

Fig. 3. *Tissue culture for polio vaccine. Chopping monkey kidney into fine pieces.*



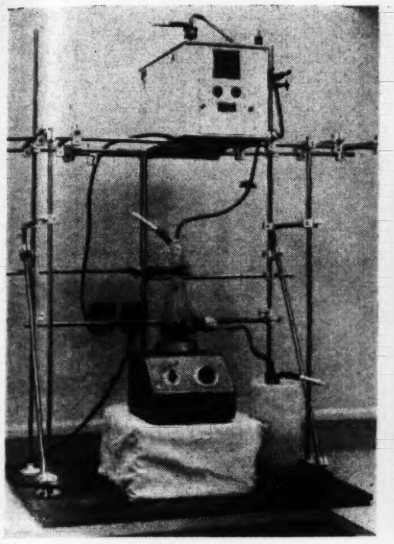


Fig. 4. *Tissue culture for polio vaccine. Digestion flask for obtaining cells from pieces of kidney. Trypsin is incubated in the water bath above and drips on to pieces of kidney in the flask which is stirred by a magnetic stirrer. The cell suspension is collected in an ice-cold bottle in the container at bottom right.*

Fig. 5. *Tissue culture for polio vaccine. Cells grow on the glass surface of large flat bottles which are kept in an incubator room. After 7 days the tissue cultures are ready to support the growth of poliovirus. Each bottle provides enough suspension for about 200 doses of vaccine.*

containing enough antigen for each should be effective.

The present 'tissue culture era' of poliomyelitis research dates from 1949 when Enders and his colleagues of Boston showed that living cells from man, grown in tissue cultures outside the body, would support the growth of the virus. Enders' experiments were simple, their results were dramatic and the promise held out to the future was enormous. For this work he and his colleagues received a Nobel prize, an award which has been justified by the tremendous impetus the discovery gave to work on polio and many other virus diseases. In essence, he took small pieces of tissue suspended in saline with glucose and extract of serum and incubated them in a flask; he showed that poliovirus introduced into the fluid of this culture entered the cells of the tissue, multiplied in the cells and then destroyed the cells, the virus reappearing in much larger quantity in the fluid. The way was open to cultivation of poliovirus for the preparation of vaccines (see Figs. 2 to 6).

In the succeeding years refinements have been added to the technique. A completely synthetic medium is now used, and for the sake of laboratory convenience and to avoid contamination by other human pathogens, monkey tissue is preferred to human. In 1953 Salk showed that fluid from polio-infected tissue cultures could be treated with formalin to kill the virus and that these dead virus preparations could immunize children (Fig. 9). In 1954 more than 400,000 children were injected in the United States with the first manufacturers' lots of vaccines prepared according to Salk's method. The trial was a greater success than anyone had anticipated. The vaccine was shown to be safe, it stimulated the formation of antibodies against all three types of poliovirus and prevented paralytic illness in a high proportion of those injected.

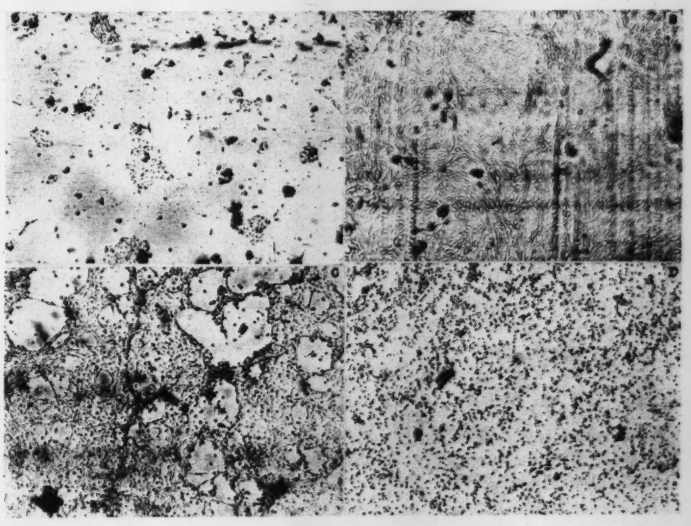
Within three weeks of the announcement of these successful results the medical world was shocked to learn that cases of paralytic poliomyelitis had occurred shortly after injections of vaccine made by one American manufacturer. Many countries had planned trials of Salk type vaccine if the American results justified it. Most countries, like Britain, cancelled whatever plans they had made for 1955 until the whole incident had been investigated.

It was subsequently found that all cases were due to the virulent Type 1 Mahoney strain, used in the vaccine, which had not been completely killed by the formalin.

I propose to go into the background of this tragedy in some detail as I think it is essential to realize why we are confident that this cannot happen in this country.

Six American pharmaceutical firms had been given licences to make Salk-type vaccine under conditions of manufacture and testing similar to those used in the 1954 trial vaccines. During 1954 and the spring of 1955 batches of vaccine had been made and stocks were held pending the results of the trial. As soon as the results were announced the American government permitted the issue of all batches which the manufacturer considered had been properly prepared and tested. The manufacturer was required to supply information (protocols) about each

Fig. 6. *Tissue culture for polio vaccine. Appearance of monkey kidney cells growing in tissue culture and the ef ect of poliovirus as seen under the microscope. Living unstained cells magnified approximately 80 times. (a) 2 days after the cell suspension has been put into the bottles; single cells sitting on the glass and some islands of growing epithelium. (b) 7 days' growth. The whole glass is covered with a confluent sheet of epithelium. (c) 2 days after the addition of poliovirus; the cell sheet is breaking up and many cells are rounding off. (d) 5 days after the addition of poliovirus; all the cells have rounded up and died; the fluid medium at this stage contains large amounts of poliovirus.*



batch of vaccine before it was released. This system had two deficiencies. First, the level of testing then required was inadequate for confidence that every batch was safe for issue; secondly, the manufacturer was under no obligation to supply information on faulty batches produced, but not issued.

This second point is of particular importance. If faulty batches are being produced frequently then the process itself must be faulty. If the process is faulty and the testing is inadequate, then there is a chance of faulty batches being passed for issue. If the licensing authority has no knowledge of faulty processing it may agree to the issue of a batch which has passed its tests; if it knew, on the other hand, that the batch was preceded or followed in a series of batches by a faulty batch, it would not agree to its issue. In other words a batch cannot be properly considered outside its context of a production series and the American regulations of early 1955 did not require a manufacturer to reveal all that was happening in his laboratory.

As a result of a thorough investigation of this tragic occurrence many modifications were introduced. The methods of manufacture were scrutinized and overhauled. Testing was intensified and made much more sensitive. Inspection of the manufacturing processes and records was improved. Since the revision of the regulations more than one hundred million doses of vaccine have been issued and used in the United States without one authenticated case of paralysis due to the injection. It must be added at this stage that Canada and Denmark, having both made plans for use of Salk-type vaccine in 1955 and having confidence in their methods of manufacture and control, proceeded to vaccinate, without ill-effect, more than a million children while the rest of the world waited and wondered what had gone wrong in America.

Fig. 9. *Tissue cultures for assay and safety testing of polio vaccine. Pipetting suspension of kidney cells into test tubes.*

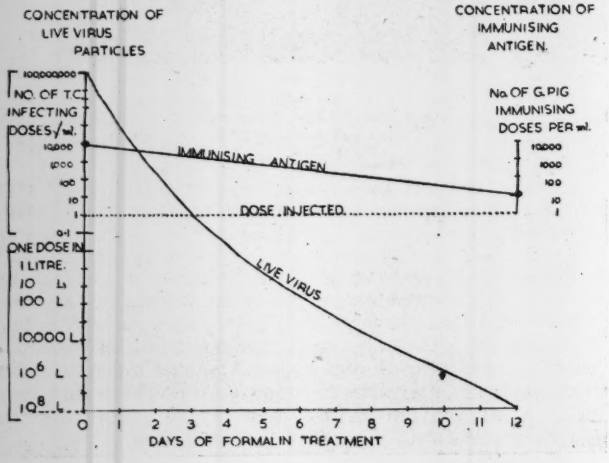

CONCENTRATION OF LIVE VIRUS PARTICLES
CONCENTRATION OF IMMUNISING ANTIGEN.
NO. OF TCI INFECTING DOSES/ml.
No. OF G.PIG IMMUNISING DOSES PER ml.
IMMUNISING ANTIGEN
DOSE INJECTED
LIVE VIRUS
ONE DOSE IN 1 LITRE.
DAYS OF FORMALIN TREATMENT

Fig. 8. *The Salk principle. Treatment of poliovirus with formalin destroys the living virus while the particles retain the ability to immunize after injection.*

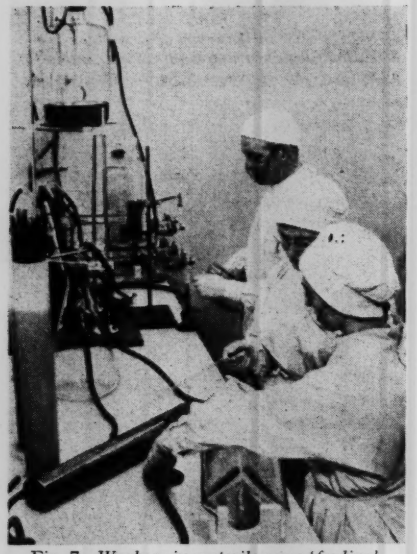


Fig. 7. *Workers in a sterile room 'feeding' fresh nutrient medium to tissue cultures. Note the use of masks and gloves, as well as sterile caps and gowns.*

In the meantime two other groups of workers in the United States had been experimenting on different lines. In the Lederle Laboratories Dr. Koprowski had found a strain of Type 2 poliovirus which was able to infect mice. After many generations of growth in mice this virus (TN strain) had lost nearly all power to cause paralysis in monkeys and chimpanzees. In 1952 he had started to feed the TN strain to small groups of young children; no symptoms occurred and afterwards antibodies to Type 2 poliovirus were found in the blood. He later worked with a Type 1 strain called SM which was also adapted to mice, but never became completely attenuated for monkeys. This was fed to children in 1954 with good results. However, when SM and TN were fed at the same time, immunity to only one strain developed. Work is proceeding cautiously and remains in the experimental stage. This is the vaccine which was used experimentally in Belfast this year.

The other group of workers is headed by Dr. Albert Sabin of Cincinatti. Their work stemmed from an observation of Enders in 1951 that virus grown for 20 generations in successive tissue cultures had almost completely lost its virulence for monkeys. In 1954, strains of lowered virulence were obtained from all three types of poliovirus. In the following year work was begun on human adult volunteers, some being injected and some fed with the virus. Much more has been added to this work in the last two years. Most individuals fed with Sabin's attenuated strains develop antibody and carry the virus in the stools for a greater or lesser period.

The advantage claimed for this type of live virus vaccine is its simplicity and cheapness. Its supporters also claim that immunity will possibly be longer lasting than with a killed virus vaccine, as well as more effective because the route of immunization is the same as that of natural infection. The disadvantages of this method are that (1) no *completely* attenuated strain has yet been found, (2) the danger exists of the virus returning to a more virulent state, and (3) a person carrying vaccine virus in his stools may transmit infection to others. Until we have

proof that an attenuated strain is really stable, these disadvantages will prevent this method from being used on a large scale. In particular there is the danger that a chain of infection starting from vaccine of this sort may allow the emergence of a virulent epidemic strain. This summer there were reports that Dr. Sabin had 'perfected' his vaccine. We shall be better able to judge this claim when we have seen the scientific evidence. It is a pity that so much information on polio reaches us in an incomplete form *via* the newspapers before the facts have been published in a scientific journal.

By the end of 1955 a decision had to be made on the use of polio vaccination in Britain. It was clear that the only possibility in safe large-scale vaccination was Salk-type killed virus vaccine. The most recent American modifications were introduced and other important working principles were adopted. The virulent Type 1 Mahoney strain used for producing polio vaccine in the United States was replaced by the attenuated Enders strain. Stringent precautions were taken to exclude the possibility of contamination at every stage of manufacture.

Fig. 10. *Tissue cultures for assay and safety testing of polio vaccine. Incubating test-tube cultures on 'roller tube apparatus'. About 6,000 cultures are used each week.*

Fig. 11. *Tissue cultures for assay and safety testing of polio vaccine. Examining cultures under the microscope for evidence of polio-virus infection.*

Production in Britain

The delicacy of the techniques used in this work needs a special sort of laboratory. Much of the work has to be done in specially air-conditioned sterile rooms provided with sterile filtered air. Persons working in these rooms wear full operating theatre kit of sterile caps and gowns, masks and gloves (See Fig. 7).

Briefly, the method of manufacture is as follows. The virus is grown in tissue cultures using the modifications of the Enders method illustrated in Figures 2 to 6. The fluid medium containing the virus is taken off and kept until sufficient has been accumulated to combine in a convenient volume to make into vaccine. In this way a 'pool' of about 30-50 litres is made representing one type of poliovirus. After various tests have been carried out, which include checks on the amount of virus and immunizing antigen, tests for purity and sterility, the pool is filtered to remove particles of dead cells and aggregates of virus particles. Formalin is then added to a concentration of 1 in 4,000 and the pool is incubated for 12 days at 37°C. (98.4°F.). This has the effect of gradually killing or 'inactivating' the virus without destroying the immunizing antigen.

It is customary to draw a graph of the inactivation process, which appears very like the upper half of Figure 8. If one assumes that the killing continues at a steady rate, then by the end of 12 days the concentration of live virus particles has fallen to less than 1 in each 10 million litres. In fact after the third day of treatment, it is impossible to find live virus in that amount of vaccine which is injected in one human dose. In Figure 8 the height of *immunizing antigen* line above the *dose injected* line indicates the margin of antigenicity while the depth of the *live virus* line below the *dose injected* indicates the safety margin. The period of 12 days has been chosen because it allows the maximum safety margin while retaining sufficient margin of immunizing antigen. A further precaution taken is that the pool is refiltered half way through inactivation on the sixth day.

When at least one pool of each of the three types of virus has been inactivated in this way, the formalin is neutralized and the three types are blended to make the final vaccine which is then filled into small bottles each holding either 1 dose or 10 doses.

Part of the confidence in the safety of the vaccine comes from the careful check tests carried out at every stage. This requires another laboratory, the assay laboratory, in which several thousand tissue cultures are being constantly prepared in small test tubes (see Figs. 9 and 10). It is particularly important to know that all virus has been killed with certainty. For this purpose very elaborate safety tests have been designed. Two samples of at least half a litre are examined from every *pool* being inactivated and two litres are taken from each blended batch of vaccine. These samples are added to tissue cultures which are then kept for four weeks and examined at regular and frequent intervals under the microscope for signs of poliovirus infection (Fig. 11). As a final check on its safety the finished vaccine is also injected into monkeys by several routes, including directly into the spinal cord. Before vaccine is issued it is tested for potency, that is to say, its ability to cause the formation of antibodies after injection.

All batches made by British manufacturers are tested for safety and potency a second time by the Medical Research Council. In making polio vaccine in Britain the processes are under the close supervision of medically qualified experts who have had considerable experience in research on poliomyelitis and in the special techniques of tissue culture. All these factors combine to make British polio vaccine at least as safe as any in the world.

A number of American workers have studied the problem of how many injections need to be given and at what age in order to give the maximum protection. From this we have concluded that at least two injections must be given, especially if dealing with infants, and that the interval between these first two injections should be about one month. A much greater protection is afforded by a

XUM

third injection given at least six months after the second. Immunization can be started in infancy and satisfactory responses occur when given at the same time as triple prophylactics (diphtheria—pertussis—tetanus).

I would suggest that if immunization is started between six and 12 months of age with two injections, it should be followed six to 12 months later by a third injection, and finally by a fourth booster injection at five years of age just before the child starts at school. Unfortunately supplies of vaccine may not permit the ideal scheme to be operated for some time.

Needs and Resources in the Nursing Profession

A reprint of this series of five articles by Mrs. N. Mackenzie, M.A. (Oxon.), can be obtained from the Manager, *Nursing Times*, Macmillan and Co. Limited, St. Martin's Street, London, W.C.2. (1s. 6d. plus postage 2d.)

The Case History of John

by ELEANOR M. JONES, Student Nurse, The Royal Hospital, Wolverhampton.

JOHN was admitted to the children's ward with a diagnosis of coarctation of aorta. He was a tall, thin, pale boy aged seven years and had been under observation for four years.

He underwent a routine examination on admission. His blood pressure was 150/80 in the brachial arteries taken above the elbows and his pulse 80 beats a minute. It was noticed that his legs and feet were colder than the rest of the body and the pulses weaker in the legs than arms.

The following examinations were carried out.

1. An early morning specimen of urine was saved and tested for sugar, aceton, albumin, blood and pus. Nothing abnormal was discovered. The reaction was acid and specific gravity 1020.

2. Daily estimates of blood pressure were taken and recorded in the arms and legs. It was higher in the arms.

3. A specimen of blood was taken for grouping and cross-matching.

Co-optation of Coarctation

These examinations completed, the child was prepared for co-optation of coarctation. The boy was admitted three weeks before the operation to accustom him to ward routine and the nurses. His parents were interviewed and had the operation explained to them, after which they signed the operation consent form.

John was given about two pints of glucose drinks daily which he took well. This was important because he would be losing a lot of body fluid during the operation and it would be some hours afterwards before he could take sufficient by mouth. Several days before operation he was given tap water per rectum to prepare him for the administration of rectal Avertin. Procaine penicillin, 100,000 units twice daily, was given for three days before operation.

On the day of operation he was bathed and his finger and toe nails cut and cleaned. The chest and axillae were shaved and he was dressed in a theatre shirt and socks. A light breakfast of two pieces of bread and butter and a drink of milk was given at 6 a.m. Another milk drink was given at 9 a.m. after which nothing further was given by mouth. He used a urinal at 12.20 p.m. (his bowels had been opened at 8 a.m.). Pre-medication of atropine, gr. $\frac{1}{100}$, and rectal Avertin was given at 12.30 p.m.

The child was taken to the theatre at 1 p.m. Under a general anaesthetic the left chest was opened; a coarctation of aorta together with a patent ductus arteriosus was present. The ductus was doubly ligated and divided, and the narrowed segment of the aorta excised between clamps. The two cut ends of the aorta were sutured together. The wound was closed with an intercostal drainage tube. This drainage tube was connected to a water-seal drainage bottle. An intravenous transfusion of blood was started in the theatre.

On return to the ward at 6 p.m., the boy's colour was good and pulse strong and regular at 128 beats a minute. The second pint of blood was running through satisfactorily at 40 drops a minute. This was replaced at 25-30 drops a minute, then discontinued at 10 a.m. The child was put into a warmed bed in an oxygen tent immediately on return from the theatre and nursed at complete rest with one pillow. One nurse stayed with the child continuously. His pulse and blood pressure were taken at half-hourly intervals and his temperature four-hourly. He recovered uneventfully from the anaesthetic at 8 p.m. and had morphia, gr. $\frac{1}{12}$, four times at four-hourly intervals throughout the night. The child vomited a small amount of post-anaesthetic fluid at 10 p.m.

The next morning two nurses washed him, treated his pressure areas with soap and water and pulled the draw-sheet through. They did this very carefully, not moving him more than necessary. He was not allowed to do anything for himself. Procaine penicillin, 600,000 units, was given at 6 a.m. by intramuscular injection and was to be continued twice daily for two weeks.

During the next day his breathing and colour were good and blood pressure remained at 130/90, and pulse at 128. His temperature remained normal. The oxygen tent was removed and the infusion discontinued at 10 a.m. He was still nursed at complete rest and had his pressure areas treated four-hourly. Glycothymoline mouth washes were given four-hourly. The water-seal drainage was swinging and draining well. The nurses were careful when making the bed not to kick the bottle and made sure that the rubber stopper was firmly in position. They also checked the glass tubing, to which the rubber drainage tube was connected, to see that it was under water.

A check X-ray was taken on the third day. There was no pleural effusion so the intercostal drainage tube was removed. The physiotherapist came to give breathing exercises. A second pillow was allowed and a light diet taken well.

John began to take an interest in his surroundings

again on the fourth day. He was allowed a third pillow. The nurse continued to wash and feed him. He was permitted to feed himself for the first time on the seventh day after operation. He was very pleased and the next day washed himself too. Gradually he did a little more each day. All sutures were removed on the 12th day. The wound was completely healed. He was now moving about freely in bed. The next day he sat out of bed in a chair for two hours with no ill effect. The following day he sat out of bed all the morning. The penicillin was discontinued.

The physiotherapist let John walk a few steps on the 15th day and he stayed up all the next day. By now the pulse in his legs was good but the blood pressure was still less in the legs than arms. His feet and legs were warm. He was discharged home on the 17th day. He returned to the outpatient department at two-monthly intervals for a check-up. His blood pressure remained higher in his arms than legs for about six months after which it gradually came down. The boy is now perfectly fit and leading a normal active life.

[I wish to thank Mr. E. G. Doltan, F.R.C.S., and Miss H. G. Ritchie for their kind permission to write this case history.]

SISTER TUTOR SECTION WINTER CONFERENCE (*continued from page 184*)

ness in the families from which they were separated.

Another distracting circumstance affecting some adults—again particularly the men—was the financial worry of maintaining a home in one place and bearing the expenses of studenthood in another.

These things obviously weighed upon some adult students in a way that made studenthood much harder. The 'steadier/stabler' the personality, the less effect would such things have upon academic achievement. But the impression gradually gained ground that academic achievement was being affected.

Consequently, I decided to attempt to find out if there were any relationship between personality and academic achievement. The great practical difficulty is to obtain reliable and valid numerical scores for personality. Another difficulty is to decide what you mean by personality—there are so many personality traits.

'Dimensions of Personality'

However, it is increasingly the view that the dozens of personality traits can in fact be reduced to a few 'Dimensions of Personality' (to use the title of a well known book on this topic). It appeared that my best course was to attempt to obtain an assessment of one dimension of personality which was not only relevant to the purposes of the inquiry, but which appeared to command general agreement among experts. This dimension of personality has been called—on its favourable side—stable, mature, integrated, dependable, and on its unfavourable side neurotic, unstable, undependable. To assess it I used an existing personality questionnaire. There are more reliable ways but they were not open to me.

I further obtained numerical scores by means of judges' ratings for traits like perseverance, conscientiousness and concentration. These ratings were the external view of personality and they were combined into a composite rating called application. I had available very good tests of mental speed and of accuracy. A third test produces what is called a level score. Level incorporates credit for persistence. It was the best assessment of this trait which I felt I could achieve under group-testing conditions.

Finally, by means of a graphic rating scale, I obtained self-ratings of things like degree of financial worry; degree of anxiety regarding family health matters; degree of satisfaction with student status, and so on.

All this of course, was in addition to scores for verbal and non-verbal intelligence, comprehension, general information—and age.

My analyses of all these scores and ratings made use of final examination marks as the criterion.

In my results I obtained no startlingly high correlations between personality and academic achievement and I offer my findings with diffidence. You must accept them with caution. However, when I do refer to relationships of any kind you may generally assume that they are statistically significant.

The first result of interest to emerge was that the men as a group performed so differently from the women as a group in the final examination that it became necessary thereafter to carry out separate analyses in most cases.

This being so, I am going to deal with the results for women first with regard to consistent relationships, if any, with the criterion of final examination marks.

First of all there was a positive relationship between stable personality and degree of success in the examination amongst the group as a whole.

There was a close relationship between accuracy and degree of success in the examination.

There was a very slight relationship between mental speed and degree of success in the examination.

The level score, which you remember incorporates credit for persistence, showed the closest relationship of all with degree of success in the examination.

The external ratings for conscientiousness, perseverance, etc., showed a slight positive relationship with degree of success in the examination, but the other relationships of this variable suggested that it had a lot of 'cognitive halo'. By that I mean that when the judges judged perseverance their judgement was influenced by what they knew of the quality of students' work.

Age showed no appreciable relationship with the criterion of examination success.

The results of the questionnaire on change in circumstances were very much as anticipated. There was quite a close relationship between satisfaction with student status and degree of success in the examination.

The factor analysis of the results for women emphasizes the importance of intellectual attributes. Among the personality variables linked by the factor analysis with success in the examination in a rather prominent way, were accuracy, confidence, speed, and satisfaction with status.

Variations in Men's Results

The men's results showed a number of differences. As a group they did not show any consistent relationship between scores for stable personality and degree of success in the examination. That is not to say that they did not show

PSYCHOLOGY APPLIED TO NURSING

THE first and second series of 'Notes' by Miss D. Weddell, matron, Cassel Hospital, for those teaching psychology to student nurses, are available in a reprint, price 2s. 3d. (by post 2s 6d.) from Manager *Nursing Times*, Macmillan and Co. Ltd., St. Martin's Street, London, W.C.2.

variation in stability. It only shows that what variation occurred was independent (in the whole group) of variation in examination marks.

Accuracy showed relationship with examination success, as it did in women.

Speed, however, did not appear to be important.

Neither did level—the score incorporating credit for persistence.

External ratings for perseverance, conscientiousness showed about the same degree of relationship with examination success as with women.

Age, however, showed a closer degree of relationship than any other personality variable save accuracy. The younger a man was, the better did he do at the examination.

There was also a significant inverse relationship between a man's degree of success in the examination and the extent to which he was worried by family health matters. The same applies (although to a smaller extent), to his concern over financial matters.

The other things we have mentioned do not, for men, show a consistent relationship with degree of success in the final examination.

The factor analyses of the men's results suggested that examination success was determined less by intellectual factors than by emotive ones. The criterion of examination marks is most consistently associated in the factors with age, accuracy, family health and freedom from financial worry.

These observations might be expressed in sequence thus: the men who are most likely to achieve academic success are the younger, more accurate ones carrying the lightest load of familial and circumstantial anxiety.

Type Groups

For the third and final analysis the total samples were broken down into type groups in an attempt to throw into sharper relief any variables having distinctive effects upon performance in the examination.

This sample (including both men and women), was then sub-divided into what were called a normal group, a group of under-achievers and a group of over-achievers.

The normal group constituted those whose test results in certain tests—whether poor or good—had been in line with their examination results, that is, their actual performance in the final examination might have been expected from their test results. The over-achievers were those who had done distinctly better than might have been expected on this basis, that is, poor tests and better examination results; while the under-achievers had done worse than might have been expected—good tests and poor examination results.

Each of these groups was then compared with each other with regard to their scores on the other variables.

The results of comparing non-intellectual variables in these type-group profiles (as the assembled data from the groups are called) were as follows.

(1) Both the over- and under-achievers were less stable than the normal group, but the under-achievers were also less stable than the over-achievers.

(2) Under-achievers were more worried about financial matters than either the normal group or the over-achievers. This may be less because they have greater financial difficulty than because they worry anyway—being less stable.

(3) Both under-achievers and over-achievers were less confident of the outcome of the course than normals, while the under-achievers were the least confident. This corresponds with the state of affairs for stability-instability, and suggests that lack of self-confidence is associated with instability.

The general impression left by this examination of under- and over-achievers was that the differences between them were all due to relationships with stability-instability. Here we have some evidence of the effects of a pervasive personality attribute — stability-neuroticism, related to academic achievement. In its relatively slight manifestation, as with over-achievers, it is associated in this context with beneficial results. In its relatively more extreme manifestation, as with under-achievers, it is associated with the opposite.

It may be an over-simplification to put it this way, but perhaps I may conclude by saying that, academically speaking, it is a good thing to be mildly neurotic but to be more than mildly neurotic is academically bad.

Personality Tests in Practice

The chairman then called on Miss M. B. Powell, matron, St. George's Hospital, London, and Miss Mary Brown, principal tutor, Royal Devon and Exeter Hospital, to outline the tests introduced at those hospitals. At St. George's, said Miss Powell, they had started an investigation some six years before with the object of testing personality and intelligence. They had listed 18 abilities and qualities and three judges, considered reliable by the psychologist, had rated a group of 120 nurses. They were now beginning to assess the scores of those who had qualified and hoped to be able to report the result of the investigation in a year's time. She had been much encouraged by the speakers' comments on what might be achieved by selection.

Miss Brown said that in Exeter they were as yet only trying to obtain the tests suitable for use for their candidates. They had given tests to 150 students already in training and were comparing the results with ratings by the matrons and ward sisters. She found that men students who had already completed a previous training were the most difficult to test satisfactorily.

The audience then divided into 13 groups with leaders for discussion and met again at 2.30 for the question and answer session when the speakers were joined on the platform by Miss Brown, Miss Hill, Miss Delve and Miss Fawkes. To the question whether it would be wise for the profession to press for selection tests on a national basis and would this result in a saving of money, Professor Eysenck said in his opinion the answer was yes—but if asked whether he could substantiate it on an actuarial basis the reply would be no. The national cost need not be large and he believed it would more than pay for itself. On the best age for testing, Professor Eysenck said testing throughout schooldays would show development, which was more informative than a test giving facts about a particular stage. But the more numerous the tests the greater the expense. The inherited and innate degree of emotional stability could be tested and testing at 16 years of age would be predictive to a considerable extent, but no one could predict the experiences that would be met during the next 10 years, or the environmental changes.

Challenged on his statement that interviewing was of little value and asked if there was a test to show desire to give service, Professor Eysenck replied that a series of miniature situation tests had been tried on schoolchildren in the U.S.A., but he doubted whether this could be assessed in a short time or directly in a half-hour interview. An alternative method was by an attitude scale—the candidate indicating on a list of numerous occupations, games, etc., whether he liked or disliked them. Based on comparison with those liked and disliked by people already successful in the work under consideration this had been

found to be of use, and was certainly more so than the interview.

On being asked the qualification for those undertaking the selection, the speakers emphasized both qualification for the work for which selection is required, and qualification in selection and testing procedures; for example, one expert in nursing, one psychologist experienced in psychological selection and one person well aware of the general requirements of the course of study or training to be undertaken. It would be of value if any of the three had expertise in more than one of the three specialties. Mr. Miles further stressed that the tutor should have a predominant voice in the selection of the students; both academic and practical aspects were essential but the tutor in control of the school should take part with others in the selection of the students.

Asked whether there were tests suitable for selecting nurses for promotion, Professor Eysenck said from general knowledge such tests for promotion were less likely to cause personal complaints and charges of favouritism. As to tests for special types of nursing, these could be devised but would be more difficult and detailed than those for the essential basic qualities of intelligence and stability.

Asked whether the results of the tests should be discussed with the student, Mr. Miles thought not.

In closing the conference Lady Williams said that it was evident that all were conscious of the need for more selection; they had been stimulated by the ideas put forward though they were not prepared to accept them without question.

INTEGRATED NURSING COURSE

at Hammersmith Hospital Postgraduate Medical School of London, Battersea College of Technology, and Queen's Institute of District Nursing

FOR HOSPITAL AND DISTRICT NURSING, MIDWIFERY PART 1, AND HEALTH VISITING QUALIFICATIONS

outlined by E. J. MERRY, S.R.N., S.C.M., M.C.S.P., H.V.CERT.,
General Superintendent, Queen's Institute of District Nursing.

A NEW type of nurse training, integrating in one complete course of approximately four years the preparation for general nursing, health visiting, district nursing and Part 1 midwifery, has now been planned. This is the result of the combined efforts of several groups of people in hospital and in the domiciliary services.

Five years ago the Queen's Institute decided to investigate the possibility of producing a plan of nurse education which would aim at preparing a more truly *general* nurse than the existing hospital training provides. It was felt that an experiment should be tried of offering with general nursing training the three additional qualifications, at present only obtainable after State-registration.

Expert advice was obtained from nursing educationists, matrons, hospital tutors, midwife teachers, health visitor and district nurse tutors, a professor of public health and other members co-opted for special advice in this educational project.

The former education officer of the Queen's Institute, Miss Dorothy Goodwin, visited the United States of America and Canada during 1952 to study the public health services there and to see the preparation nurses receive for those services. Her reports, together with others including the Working Party Report on the Recruitment and Training of Nurses, 1947, were fully studied and discussed.

The primary aims were to produce a good *general* trained nurse by providing a course which would give a student from the outset and throughout her training a broad understanding of the nursing needs of patients in hospital and at home with their families and which would include the social, preventive and curative aspects of public health nursing.

After many meetings to discuss the main principles and to get agreement on the balance, content and duration of the proposed course, draft plans were prepared.

The following bodies were interested in participating in the course: Hammersmith Hospital, Battersea College of Technology and approved training centres of the Queen's Institute of District Nursing. The three senior tutors of these organizations, Miss G. Ludbrook, principal tutor, Hammersmith Hospital, Miss R. Hale, principal health visitor tutor, Battersea College of Technology, and Miss A. Black, education officer of the Queen's Institute of District Nursing, have, during the past two years, been working on the curriculum. Each detail of the course to cover the syllabuses for general nursing, district nursing, health visiting and Part 1 midwifery, has been very carefully worked out and the dates synchronized so as to fit in with the statutory examinations of the General Nursing Council and the Central Midwives Board and with the examinations of the Royal Society for the Promotion of Health and of the Queen's Institute of District Nursing.

At various stages in these negotiations the official approval of the bodies mentioned above has been sought by the Queen's Institute. There were a good many hurdles to overcome and the scheme has been repeatedly referred back to the Institute by one or other of these bodies for revisions and adjustments. The three tutors were untiring in their efforts to revise the scheme and were supported by the matron of Hammersmith Hospital, the principal of Battersea College and the head of its Department of Health Education, and by members of the training subcommittee of the Queen's Institute, until it was considered satisfactory by each of the examining bodies. Approval has had to be obtained from each and the efforts of all concerned in obtaining this agreement can only be described as valiant. Final approval of the scheme by the Ministry of Health and by the Ministry of Education is anticipated shortly.

The enthusiasm for this scheme of those directly concerned with it, and of those with whom it has been discussed in this and other countries, is indicative of the great interest there is in experiments in nursing education which will produce good nurses with a wide appreciation of the nursing and social needs of an individual and his family in hospital or at home, and how these needs can best be met.

Educational requirements for applicants will be the

General Certificate of Education in three subjects with two other subjects at the advanced level.

An interviewing committee composed of representatives from the hospital, the health visitor training centre and the Queen's Institute, will select students for each course.

It is hoped that this specially planned course will attract students with this higher educational level and with an interest in social work, who are not at present choosing nursing as a career.

A health visitor tutor will be employed by Hammersmith Hospital to take special responsibility for the group of students throughout the hospital part of training and to co-ordinate all four syllabuses.

A great deal of thought and care has been put into the planning so that each aspect of this training shall be adequately covered and undue overlapping of subjects will be avoided.

It is the intention of those who have evolved this scheme that there should be no more emphasis on one branch of nursing than on another, but that the aim should be to produce a good fully trained nurse who will feel quite free after training to choose a career in hospital or in one of the public health services.

With these objectives, it is planned that this educational programme will be launched in September 1957, and the results in the next few years will be most carefully studied.

[The scheme will be published in the *Nursing Times* in full after it has been finally approved.—EDITOR.]

UNICEF in Formosa and Hungary

A MAJOR problem in fighting widespread diseases like trachoma is the shortage of trained medical workers, so in Formosa they rely on teachers and schoolchildren. The teachers show pupils how to smear the antibiotic ointment supplied by UNICEF on the eyes of their classmates, and when they have had sufficient practice they are given supplies to treat younger brothers and sisters at home. A new method of intermittent application has been found as effective as a regular course of treatments, and has cut considerably the cost of saving children from permanent blindness.

The UNICEF executive director, Mr. Maurice Pate, had no difficulty in securing a visa to make an on-the-spot assessment of the needs of children in Hungary early in December. Now supplies of blankets have arrived and are being distributed through the International Red Cross to mothers and children in Budapest, whose homes were wrecked in the recent fighting. Broken windows and no heating mean a bitterly cold winter for them. The Hungarian government has sent its sincere thanks and promised all necessary assistance for their efficient distribution. UNICEF is also supplying warm underclothing to children in Austrian refugee camps. Further relief will be given as needed, to fill in the gaps in assistance from other sources, and to ensure the continuance of aid already begun.

In Parliament

Non-nursing Duties in Hospitals; Part-time Nurses; Beds for the Elderly; Mental Patients; Lung Cancer

MR. Blenkinsop (Newcastle upon Tyne, East) asked the Minister of Health on February 4 for the latest available figures of the loss of trained nurses from hospital nursing; and whether he would consider methods of relieving nurses of non-nursing duties.

Mr. Vosper.—Complete figures are not available, but a recent sample inquiry undertaken by the Dan Mason Nursing Research Committee suggests that about 40 per cent. of trained nurses leave hospital nursing within two-and-a-half years of qualification. Hospital authorities have been urged to relieve nurses of non-nursing duties by the employment of adequate numbers of domestic and other staff.

Mr. Blenkinsop.—Does the Minister not feel that there might be a further follow-up on that recommendation, perhaps in the form of some short school, in which staff nurses and others might have explained how some of their duties might be transferred to non-nursing staff?

Mr. Vosper —I will certainly look at that point. The increase we had hoped for in domestic staff has been disappointing. It should be realized that many of the nurses who leave do so to marry—about 50 per cent. of those leaving—but an increase of domestic staff would certainly relieve the position.

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Mrs. Jeger (Holborn and St. Pancras South).—In view of the understandably high marriage rate among these able and attractive girls, will the Minister not try to encourage the use of more part-time nurses in big hospitals? Is it not a fact that there is a certain amount of resistance on the part of matrons and those running hospitals, which ought to be broken down, and that they are not always willing to make use of part-time nurses, whereas many married nurses are prepared to make a part-time contribution?

Mr. Vosper.—I am sure there is room for improvement in the employment of part-time nurses. Those full-time nurses who on marriage leave the service may well be induced to come back in a part-time capacity.

Mr. Blenkinsop.—Will the Minister at least give a guarantee that no financial restriction will be left in the way of employing more domestic and other staff?

Mr. Vosper.—I have no reason to suppose that financial restrictions have been the reason for the disappointing response up to date.

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Dr. Johnson (Carlisle) asked the Minister for the total number of hospital beds in England and Wales available for elderly people.

Mr. Vosper said that at the end of 1955 about 56,000 were available to the chronic sick through the National Health Service.

Dr. Johnson.—Will the Minister use his powers to insist that the regional boards and the local authorities co-operate in the establishment of proper geriatric services so that these beds are used to their fullest advantage, and so that we do not have elderly people pitchforked into mental hospitals from which so often they never come out?

Mr. Vosper.—I do not accept the view about elderly people being pitchforked into mental hospitals. I accept the implication of the first part of the question, but Dr. Johnson will agree, however, that the provision of domiciliary and welfare services in this field is equally important.

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Mrs. Lena Jeger (Holborn and St. Pancras South), asked the Minister if he would consider making future provision for mental patients in new general hospitals in order to help overcome prejudice, facilitate staff recruitment, and assist the provision of physical treatment which was so often essential in mental cases.

Mr. Vosper.—I have this development very much in mind, and my officers are discussing the possibilities in connection with new building by regional hospital boards.

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Mr. Vosper informed Mr. Hayman (Falmouth and Camborne) that deaths from cancer of the lung in 1955 in England and Wales were 799 per million living, an increase of 40 per cent. in the course of the preceding five years.

Mr. Vosper informed Mr. Lipton (Brixton) that in the current financial year the Medical Research Council were spending about £29,000 on research into the connection between smoking and lung cancer. Most of this sum came from the lung cancer research fund put at the disposal of the council by a group of British tobacco manufacturers.

APPROVAL OF TRAINING SCHOOLS

In the proceedings of the General Nursing Council for England and Wales for November (reported in the *Nursing Times*, December 7, 1956), it was incorrectly stated in the agenda that *provisional* approval of Victoria Hospital and Kilton Hospital, Worksop, as a complete general training school for male and female nurses had been extended for a further two years. The General Nursing Council asks us to draw attention to the fact that these hospitals are already *fully approved*.

HERE and THERE

ST. ANTHONY'S HOSPITAL, North Cheam, has received £765 from its League of Friends to provide wireless for the patients. The mayor of Sutton and Cheam presents the cheque to the Sister Superior.

BCG VACCINATION FILM

A SHORT colour film explaining why BCG vaccination is advisable for 13-year-old schoolchildren has recently been made for the London County Council. Since 1954 the L.C.C. has operated a scheme for vaccinating the 13-year-olds in its schools, but the health committee considers that, although an encouraging start has been made, an effort is needed to extend the protection to the 10,000 children in L.C.C. schools who have not yet been vaccinated.

The film explains for adults and the children themselves why BCG vaccination is advisable and should help to dispel any doubts and fears which may exist. The film will be shown locally in various London cinemas—generally just before a visit of the Council's BCG vaccination unit to that area. A list of the cinemas, dates of showing and of corresponding vaccination facilities available can be had from the Press Bureau of the L.C.C. at County Hall, S.E.1.

L.C.C. DIPHTHERIA CAMPAIGN

AN intensive immunization campaign is being conducted by the London County Council during the two weeks from February 4, to supplement the constant efforts made by health visitors, family doctors and other field workers to encourage parents to have their children immunized. It is pointed out that in these days of increased foreign travel, and with more and more foreign visitors coming to this country, including refugees, it is as important as ever for a high level of immunization to be assured.

Figures show the success so far achieved by immunization: in 1938 there were 4,559 cases of diphtheria with 205 deaths, and there has been a steady decrease, in numbers of cases and mortality, until in 1953 there were only 11 cases and no fatalities; in 1956 there were, however, 14 cases of which two were fatal—a slight increase which should warn us against complacency.

R.R.C. FOR WING OFFICER

WING Officer H. M. B. Grierson, A.R.R.C., P.M.R.A.F.N.S., who was awarded the R.R.C. in the recent Honours List, took her general training at Edinburgh Royal Infirmary and her midwifery at Edinburgh Royal Maternity Hospital. Joining Princess Mary's Royal Air Force Nursing Service in 1932, she served in the Middle East before the war and from 1942-44 was stationed at Takoradi, Gold Coast. From 1953-1955 she saw service in Germany, at Rinteln and Wegberg. Wing Officer Grierson is at present senior matron at the R.A.F. Hospital, Nocton Hall, Lincs. to which she was posted in February 1955.

BRITISH PHYSIOTHERAPISTS

THE Foreign Office and the Ministry of Health announce that the party of five physiotherapists and one occupational therapist who have spent six months in Argentina assisting in the after-care of the victims of a severe outbreak of poliomyelitis, returned to England on January 30.

The visit of the party (which was led by Miss Monica Martin-Jones of St. Thomas' Hospital) was sponsored partly by the British and Argentine Governments, partly by the British community in Buenos Aires, and partly by the Royal Mail Lines and the Pacific Steam Navigation Company. They were joined in Argentina last December by Professor H. J. Seddon, Director of the Royal National Orthopaedic Hospital, who spent two-and-a-half weeks in Buenos Aires as the guest of the Argentine Government. Before they left Argentina, the physiotherapists and Professor Seddon were received by the President of the Argentine Republic, who expressed his thanks for the work they had done.

Left: *FOOD HYGIENE EXHIBITION. Student nurses from St. Mary's Hospital and Princess Louise Hospital, London, visited the exhibition at the Ministry of Agriculture, Fisheries and Food.*

Below: *MANCHESTER NORTHERN HOSPITAL Centenary. The Earl of Derby with nurses after he had presented the prizes.*

MANCHESTER NORTHERN HOSPITAL CENTENARY

A VARIED programme marked the celebrations of Manchester Northern Hospital's centenary year, the nurses annual prizegiving being combined with other events culminating in a civic reception given by the Lord Mayor of Manchester.

To commemorate the centenary, two ward verandahs have been converted into day rooms, furnished by the Ladies' Committee and Friends of the Hospital. The new day rooms were declared open by the Earl of Derby after he had presented the awards at the prizegiving. An attractive illustrated brochure was issued to mark the hospital's hundredth year of service to the sick.

Letters to the Editor

'Glorified Maids'

MADAM.—I was born in 1900 and therefore can remember very well the dress of the maids of that period.

The afternoon dress was black with a neat apron and cap but the morning dress was practically identical with the nurses' dress of today, and this contributes very much, I am sure, to the term 'Glorified Maids' which is sometimes applied to nurses.

Also at that time there were three very distinct classes—ladies and gentlemen; men and women; and (definitely the lowest order) males and females.

The College is very concerned for the nursing profession to take its place among the 'learned' professions and yet it clings very tenaciously to the outward trappings of a period when it was definitely *not* considered to be so.

I am very much in agreement with the correspondent who has written twice on the subject of 'Male and Female' and also very much in favour of a neat uniform dress instead of the present atrocity with its cap and apron.

Also, surely the outdoor uniform and badge should be discarded. One hears the remark that people respect one for one's uniform but other professional people are able to win the respect of the public by virtue of their training and personal integrity without resorting to the childish and immature practice of parading badges and uniform.

Health visitors in particular are at a disadvantage in uniform—especially when attending meetings with other social workers since the impression is given that they are attending as nurses with a curative outlook, and the fact that they are trained social workers—even if known—is often overlooked.

'UNIFORM HATER'.

Qualifications for Senior Positions

MADAM.—Recently an advertisement appeared in the *Nursing Times* regarding the post of deputy matron of an infectious diseases hospital—a training school for nurses. The candidate apparently only needed to have one certificate—that of general nurse training. No special knowledge of infectious diseases was requested, nor was there any request for either special administrative qualification or administrative experience, according to the wording of the advertisement. The post is a hospital board appointment.

In contrast to the above, a principal tutor must have a special qualification beyond her nurse training and experience in teaching. Her post is not a board appointment.

Presumably, in time, the said deputy matron will become a matron—possibly of a training school. She, having no knowledge of teaching, or the essential qualities or type of work of a principal tutor, will consider herself competent to interview and choose such a person. Why is a principal tutor's post not a board appointment?

Also recently, an advertisement appeared elsewhere for an inspector of training schools. The candidate did not necessarily need special qualifications beyond general nurse training, some administrative experience, and some knowledge of modern methods of training. Is all nursing knowledge confined within the limits of general training?

Remembering the urgency with which existing tutors were called upon to qualify specially to teach, even after 10 to 15 years' experience of teaching, one is tempted to conclude that at present the nursing profession is just 'a crazy mixed-up kid.'

'CURIOUS'.

Single Women's Flats

MADAM.—Following the report in the *Nursing Times* of February 8 on 'Housing for Single Women', I would, as an occupant of one of Stoke-on-Trent's flats, like to endorse all that Councillor Clowes said.

It is a joy to have a well-appointed modern flat of one's own at a rent unsubsidised but still well within one's reach, and with no more worries about garage accommodation.

Can you imagine the pleasure of going out in the morning, leaving lawns needing cutting and flower beds weeding, and coming home at night to find trim lawns and flower beds?

The life within the flats may be as secluded or as communal as one desires, but there is always someone to help in the case of emergency.

We are indeed fortunate in Stoke-on-Trent in having such a far-seeing Council, and would commend to other authorities the value of such accommodation.

EDNA BOND,
College Member.

Banish the Apron

MADAM.—I was interested to read the letter in the *Nursing Times*, February 1 issue, about 'Banish the Apron'.

May I point out that it is no new idea. As far back as 1938 at the opening of Bromham House Colony, near Bedford, I was appointed matron, and had the privilege of designing the uniform for the staff. I chose bottle green drill for students, and dove grey for the sisters. They were made exactly alike. Zip centre front, zip at side, smaller zips for sleeves, and zip for pocket. The yoke had two inverted pleats to the waist, the skirt two inverted pleats. The back yoke had an inverted pleat, centre back to waist, the skirt one inverted pleat centre back—or you could have two. A stitched belt, with six rows of stitching, 2½ in. wide; small Peter Pan collar and 3 in. cuffs. Belt worn outside apron.

Aprons were worn in the wards, but discarded when going to meals or leaving the wards. The uniform then was a well tailored dress.

I came to Scotland 14 years ago, but I think Bromham still continues to wear the same uniform.

B. D. MASON.

[Many individual hospitals have of course banished the apron to its place as an adjunct to uniform during recent years, but this is not yet the general practice.—EDITOR.]

Holiday or Convalescent Homes for Epileptics

MADAM.—As you may know, since the closing of Kelsale Court, Saxmundham, Suffolk, some four years ago, holidays and convalescence for mild epileptics have presented a serious problem.

Three years ago as the result of a notice in your journal the British Epilepsy Association was successful in obtaining the addresses of a few private holiday and convalescent homes in the South of England willing to admit epileptics. For the past two years some of these homes have been used a great deal, not only by the Association but also by medical officers of health, almoners and social workers in various parts of the country.

Unfortunately our list of suitable homes has now been reduced to two, and the need, especially during the summer months, for holidays and convalescence, will be considerable, and these homes will not be able to deal with the requests we shall receive. I am therefore writing to ask whether any of your readers can again help us in this way in which case we would be very pleased to hear from them.

KENNETH GIBSON,
Welfare Secretary,
British Epilepsy Association,
136, George Street,
Edgware Road,
London, W.1.

Prize for the Ward

The Sister in Ward 1, the Children's Hospital, Birmingham, winner of one of the prizes in our Christmas Ward Festivities Contest, writes as follows: "We were delighted to have submitted a prizewinning entry. The £8 is to be used to provide a new Formica top to our existing patients' dining and general purpose table. This will cost at least £8, according to an official estimate. But we feel it will be money well spent. We have chosen cherry-red Formica for a good contrast with leaf-green counterpanes.—G. KEMP, Ward Sister."

Coming Events

British Social Biology Council.—A summer school on *The Child and his Home, Problems of Parents and Teachers*, will be held at Aix-en-Provence, France, from August 24—September 8. Fee £38. Details from the Council at Tavistock House South, London, W.C.1.

Hillingdon Hospital, Uxbridge. — The Nurses' League annual general meeting will be held on Saturday, February 23, at 3 p.m. The business meeting will be followed by the vice-president, Miss E. Laing's, talk on her recent visit to Canada. Tea will follow. Matron will be pleased to welcome all past members of the nursing staff. R.S.V.P. to matron.

Rochdale School of Nursing.—The annual prizegiving will be held in the Champness Hall, Rochdale, on April 9 at 8.30 p.m. Dr. W. I. C. Morris, professor of Obstetrics and Gynaecology, Manchester University, will present the awards. Past members of staff will be welcome, and those wishing for accommodation for the night should write to the matron of the hospital concerned.

Royal College of Nursing

Scottish Board

WARD AND DEPARTMENTAL SISTERS SECTION STUDY DAY

A Ward and Departmental Sisters Section study day will be held at Stirling Royal Infirmary, on Saturday, March 2. This study day is to discuss clinical instruction.

10.30 a.m. Registration. Chairman, Miss M. C. N. Lamb.

11 a.m. *The Angle of the Ward Sister*, by Miss Flora MacDonald, ward sister, Western General Hospital, Edinburgh.

11.30 a.m. *The Angle of the Clinical Instructor*, by Miss Elizabeth McNaught, clinical instructor, The Royal Infirmary, Glasgow.

2 p.m. Discussion from the floor.

4 p.m. Tea.

Registration fee: 2s. Those wishing to attend should notify the Scottish Area Organizer, Royal College of Nursing, 44, Heriot Row, Edinburgh 3, not later than *February 23*.

Branch Notices

Ayrshire Branch.—The annual general meeting will be held at Ayr County Hospital, Holmston Road, Ayr, on **Wednesday, February 20**, at 7 p.m. R.S.V.P. to Miss A. I. C. Bone, Seafield Hospital, Ayr.

Chesterfield Branch.—A general meeting will be held in the nurses training school, Chesterfield Royal Hospital, on **Wednesday, February 20**, at 6.30 p.m. Nominations for honorary officers will be received. At 7.15 p.m., Dr. R. T. Gaunt will speak on *Recent Advances in Diabetes*. Non-members welcome.

Chichester and District Branch.—The annual general meeting will be held at St. Richard's Hospital on **Wednesday, February 20**, at 6.30 p.m. Mrs. Bell, president, will be present. Miss Thyer, eastern area organizer, has also promised to attend.

Colchester and District Branch.—The annual general meeting will be held at the Essex County Hospital, Colchester, on **Tuesday, February 19**, at 7 p.m., followed by a business meeting. The agenda includes a report on the last meeting of the Branches Standing Committee.

Croydon and District Branch.—A lecture with slides will be held in the Public Health Lecture Room, 43, Wellesley Road, West Croydon, on **Wednesday, February 20**, at 7.30 p.m. Mr. Percy Jayes, F.R.C.S., senior consultant surgeon, Queen Victoria Hospital, East Grinstead, will speak on *Some Aspects of Plastic Surgery*.

Harrogate Branch.—A general meeting will be held at Harrogate General Hospital on **Tuesday, February 19**, at 7.30 p.m. The delegate to the Branches Standing Committee will give her report. There will also be the annual reports of the delegates to the National Council of Women and the Standing Conference of Women's Organizations.

North Western Metropolitan Branch.—The ninth annual general meeting will be held at University College Hospital Nurses Home, Huntley Street, W.C.1, on **Wednesday, February 20**, at 7 p.m. Report of the January Branches Standing Committee. At 8.15 p.m. Mrs. M. E. Curran, public relations officer, The National Jewellers' Association, will give a talk on *Precious Jewels*. *Travel*: Warren Street, Goodge Street, or Euston Square Stations, then a few minutes' walk.

St. Albans Branch.—The annual general meeting will be held in the Lecture Room, The City Hospital, Normandy Road, on **Monday, February 18**, at 7.30 p.m. Dr. Watkin-Edwards will speak on *Changing Trends in the Treatment of Tuberculosis and other Chest Conditions*. An executive committee will be held at 7 p.m.

Windsor, Slough, Maidenhead and District Branch.—The annual general meeting will be held at the Nurses Home, King Edward VII Hospital, Windsor (Bolton Road entrance), on **Tuesday, February 26**, at 7.30 p.m. The agenda will include the delegate's report of the January Branches Standing Committee. A coffee party will probably be arranged for April 10, at which Miss Gaywood will speak. Further details later.

Worcester Branch.—The annual general meeting will be held at the Royal Infirmary, Worcester, on **Saturday, February 16**, at 2.30 p.m., followed at 3.15 p.m. by an illustrated travel talk, *Italy, Ancient and Modern*, by Mr. Martin-Doyle. Will members please note: the Royal Infirmary, Worcester, and *not* the Guildhall, as previously arranged.

ROYAL COLLEGE OF NURSING
HEADQUARTERS, LONDON:
Henrietta Place, Cavendish Sq., W.1
EDINBURGH: 44, Heriot Row
BELFAST: 6, College Gardens

WEST CUMBERLAND MEETING, WORKINGTON

An open meeting for State-registered nurses will be held in the Y.W.C.A. Hall at Central Square, Workington, on Wednesday February 27, at 7.30 p.m. Chairman: Dr. V. V. Brown, medical officer, United Steel Works. Miss L. E. Montgomery, northern area organizer, will speak and it is hoped to have a second speaker. The talk or talks will be about the Royal College of Nursing and its work. This meeting is called with a

(*continued on next page*)

Occupational Health Section

INTERNATIONAL OCCUPATIONAL HEALTH CONGRESS, HELSINKI

ACCOMMODATION AND TRAVEL

A NUMBER of rooms at the College of Nursing in Helsinki are being made available to United Kingdom nurses attending the International Congress on Occupational Health from July 1-6. If any Occupational Health Section member is interested in this accommodation she should write to Mrs. I. G. Doherty, secretary to the Section, Royal College of Nursing, enclosing a stamped addressed envelope, as soon as possible. The accommodation will be allocated to members at the meeting of the Central Sectional Committee on February 23.

Copies of the provisional programme of the congress have been received which show that registration will begin on Saturday, June 29, continuing through Sunday, June 30. The opening ceremony will take place in the Festival Hall of Helsinki University on Monday morning, July 1, and the congress will close with a banquet on the evening of July 5.

Nurses attending the congress who would like to extend their tour on returning from Helsinki are offered the following suggestions involving only a very small additional outlay.

1. *London - Helsinki - Stockholm - Gothenburg - Copenhagen - Amsterdam - London*

Additional cost covering seven nights divided among the above cities according to individual choice—approximately £14.

2. *London - Helsinki - Stockholm - Oslo - London*

Additional cost covering seven nights divided among the above cities according to individual choice—approximately £14.

3. *London - Helsinki - Stockholm - Oslo - Bergen - London*

Additional cost covering seven nights divided among the above cities according to individual choice—approximately £14 10s. Second class travel between Oslo and Bergen could be arranged at a supplement of £2 17s. It is strongly recommended that the journey between Oslo and Bergen be undertaken by rail in view of the scenic beauties of this route.

4. *London - Helsinki - Copenhagen - Amsterdam - Brussels - London.*

Additional cost covering seven nights divided among the above cities according to individual choice—approximately £14.

5. *London - Helsinki - Stockholm - Malmo - Copenhagen - Hamburg - Amsterdam - London*

Additional cost covering seven nights divided among the above cities according to choice—approximately £14.

Estimated costs of dinner: Oslo £1; Bergen 16s.; Copenhagen 18s.; Stockholm £1.

For those wishing to travel by rail and sea the following alternative routes are available.

via Hook of Holland: 1st class return £51; 2nd class return £36. (Sleeper accommodation extra.)

via Harwich/Esbjerg: 1st class return £53; 2nd class return £35.

via Swedish Lloyd from Tilbury to Gothenburg, rail to Stockholm, thence steamer to Helsinki: 1st class return £46 10s.; tourist and 3rd class £38.

(All the above fares are approximate and are based on the minimum rate of accommodation where travel is by steamer.)

Arrangements for the above can be made in conjunction with air bookings from London to Helsinki which are as follows: London to Helsinki—tourist class return £69; London to Stockholm—tourist class night flight return £52.

Approximate times of departure: daily flights by S.A.S. leaving London 4.15 p.m., arriving Stockholm 9.15 p.m. B.E.A. morning flight leaving London 10 a.m., reaching Stockholm at 1.40 p.m., on Monday, Tuesday Thursday, Saturday and Sunday. Flights every day from Stockholm to Helsinki.

Further information as to agencies arranging the tours and copies of the Congress programme may be obtained through Mrs. I. G. Doherty; please enclose s.a.e.

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(*continued from previous page*)

view to re-forming the West Cumberland Branch. All State-registered nurses are most cordially invited to attend.

Council Election Nominations

We are asked to state that Miss V. C. Whiter is principal tutor of the Queen Elizabeth School of Nursing, United Birmingham Hospitals, not of the Queen Elizabeth Hospital. (Miss Parnell is the principal tutor of the Queen Elizabeth Hospital.)

Ayrshire Branch Burns Supper

On January 23 the Ayrshire Branch held a Burns Supper at Hotel Dalblair, Ayr. Forty members and guests attended, and Major Don McNeal and Mrs. McNeal were the guests of honour. Major McNeal is Commander, 1631st U.S. Air Force Dispensary, Air Base, Prestwick. Scottish favours in the form of a kilted doll and a miniature copy of Burns poems were placed at the guests' places at table.

Mr. J. L. Connell was in the chair; Mrs. A. Ross, sister tutor, Ayrshire Central Hospital, Irvine, said the Selkirk Grace. The haggis was piped in by Mr. A. Hill and the address to the haggis was suitably performed by Mr. A. Thomson, charge nurse, Ballochmyle Hospital. The toast to the Queen was very charmingly proposed by Miss J. S. Abercromby, president, Ayrshire Branch.

'The Immortal Memory' was proposed by Dr. A. L. Taylor, assistant English master, Ayr Academy, who depicted Robert Burns as the national bard, but also as a man following his life in Ayr, Mossgeil, Edinburgh and Dumfries. Miss J. Bowness, principal sister tutor, Ballochmyle Hospital, and Miss E. Forsyth, student nurse, Ballochmyle Hospital, entertained the company with song and dance, and Miss M. McMurtrie rendered 'Tam O'Shanter' so perfectly that she left everyone marvelling at her excellent memory.

Mr. G. Clelland, F.R.C.S., Ballochmyle Hospital, very wittily proposed the toast to the lasses and Miss J. R. Gillanders, matron, Ballochmyle Hospital, ably replied. Miss J. G. Cowie, principal sister tutor, Ayrshire Central Hospital, Irvine, proposed the toast to the guests and artistes. Major Don McNeal in replying took the opportunity to express his appreciation to the doctors and nurses at the airport and hospitals in Ayrshire who had so willingly and helpfully cooperated with him during his three years in this country.

Miss A. I. C. Bone proposed a vote of thanks to Mr. Connell who had so ably chaired this most successful social function which could become an annual event in the Ayrshire Branch.

Wrexham and District Branch

Wrexham and District Branch held its eighth annual dinner at the Wynnstay Arms Hotel on Wednesday, January 30. Those present included the president of the Branch, Alderman Mrs. Jarvis Jones; the chairman, Miss J. C. Hague, and the vice-chairman, Miss W. Chune.

The guests of honour included Councillor J. H. Jennings, deputy mayor of Wrexham, and Mrs. Jennings; Mr. Richard Davies, chairman, Wrexham, Powys and Mawddach Hospital Management Committee; Dr. and Mrs. Philip Evans; Mr. and Mrs. R. S. Ninian and Miss E. Williams, chairman of the Liverpool Branch. An entertainment followed which was much enjoyed.

POSTAGE EXTRA

Will readers please note that orders for *Observations and Objectives—A Statement on Nursing Policy*, to be sent through the post by the Royal College of Nursing, should be accompanied by a remittance for 2s. 4d. to include postage.

ROYAL COLLEGE OF NURSING APPEAL

for the Nation's Fund for Nurses

We acknowledge with many thanks the donations listed below.

Contributions for week ending February 9

	£	s.	d.
Royal Berkshire Hospital, Reading. *Monthly donation*	10	0	
Mrs. J. Grigg. *Monthly donation*	10	0	
S.R.N. Dalwood. *Monthly donation*	2	0	
Miss W. E. Steward. *Monthly donations*, February and March	10	0	
Royal College of Nursing Inquiry Office. Money box	1	19	1
Anonymous	10	0	

Total £4 1s. 1d.

E. F. INGLE,
Secretary, Royal College of Nursing Appeal for the Nation's Fund for Nurses, 1a, Henrietta Place, Cavendish Square, London, W.1.

Appointments

Regional Hospital Board

MISS JOAN E. CLARK, S.R.N., B.T.A., Pt. 1 Midwifery, has been appointed NURSING OFFICER to the South East Metropolitan Regional Hospital Board. Miss Clark took her training at the Nightingale Training School and the General Lying-in Hospital, London. She has held posts as a ward sister at Peppard Chest Hospital; as ward sister and night sister at the Royal Salop Infirmary, and as administrative sister and second assistant matron at St. Thomas' Hospital, London. Miss Clark is at present matron of Sheffield Royal Infirmary, and will assume her new duties on April 15.

Obituary

Mrs. G. M. Campbell (*née* Wilson), C.B.E., R.R.C.

We announce with regret the death of a distinguished Australian nurse, Mrs. Grace Margaret Campbell, (*née* Wilson), C.B.E., R.R.C. Born and educated in Brisbane, Mrs. Campbell took her general training at Brisbane General Hospital before coming to England where she took her midwifery at Queen Charlotte's Hospital, London. Afterwards she worked as a sister at the Albany Memorial Hospital, London, returning to Brisbane as matron of the General Hospital there.

During the First World War Mrs. Campbell became principal matron of No. 3 A.I.H. associated with the A.I.F. in Egypt, Gallipoli, Leminos and France. She became temporary matron-in-chief of the Australian Army Nursing Service; was mentioned in dispatches five times and was awarded the R.R.C., and in 1919 received the C.B.E. After her war service Mrs. Campbell held matronships in various Australian hospitals and in 1937 she led the A.I.F. nurses contingent at the Coronation of King George VI. At the outbreak of the last war, Mrs. Campbell was appointed matron-in-chief of the Australian Army Nursing Service, and served from 1940-41 until she retired from active service. For outstanding service to the nursing profession she was awarded the Florence Nightingale Medal. She maintained a keen interest in nursing organizations and activities after her retirement. A colleague from Australia writes: "Mrs. Campbell was a gracious and charming personality, most humble and unassuming with all her authority, and always kind and friendly. The Army nurses all loved her; she was a continual inspiration to them by her devotion to duty and never-failing enthusiasm. She gathered around her a host of life-long friends, both in Australia and in Britain. At her death she was accorded a full military funeral—a fitting tribute to one of Australia's most outstanding nurses."

Additions to the Library of Nursing

JANUARY 1957

Barnes, J. Care of the Expectant Mother (Pitman, 1957).

Best, C. H., and Taylor, N. B. The Human Body: its anatomy and physiology (third revised edition) (Chapman and Hall, 1956).

Blum, M. L. Industrial Psychology and its Social Foundations (second edition) (New York. Harper, 1956).

Bowley, A. H. Natural Development of the Child (fourth edition) (Livingstone, 1957).

Christie, A. B. Infectious Diseases (third edition) (Faber, 1956).

Cronbach, L. J. Educational Psychology (New York. Harcourt Brace, 1954).

Israel: Ministry of Health. Nursing in Israel: a survey prepared for the ninth World Health Assembly by the Nursing Division, Ministry of Health (Israel. Ministry of Health, 1956).

Josling, J. F. Adoption of Children (fourth edition) (Solicitors' Law Stationery Society Ltd., 1956).

Kessel, I. Essentials of Paediatrics (Livingstone, 1956).

McGeogh, J. A. Psychology of Human Learning (second edition) (Longmans, 1952).

McKown, H. C. The Student Council (New York. McGraw-Hill, 1944).

Ministry of Education. The Health of the Schoolchild. Report of the Chief Medical Officer of Health to the Ministry of Education, 1954-55 (H.M.S.O., 1956).

Myrdal, A., and Klein, V. Woman's Two Roles (Routledge, Kegan Paul, 1956).

Oates, W. E. Religious Factors in Mental Illness (Allen and Unwin, 1957).

O'Connor, N., and Tizard, J. The Social Aspect of Mental Deficiency (Pergamon Press, 1956).

O'Sheehan, J., and de Barra, E. Ireland's Hospitals, 1930-55 (Dublin Hospitals Trust (1940) Ltd., 1956).

Pearce, E. C. A General Textbook of Nursing (14th edition) (Faber, 1956).

Peel, E. A. Psychological Basis of Education (Oliver and Boyd, 1956).

Practitioner. Favourite Prescriptions (The Practitioner, January 1957.)

Rodeman, C. A Guide for Psychiatric Aides (New York. Macmillan and Co., 1956).

Rynbergen, H. J. Teaching Nutrition in Nursing (fourth revised edition) (Pitman, 1957).

Scottish Council for Research in Education. Hearing Defects in Schoolchildren (University of London Press, 1956).

Thompson, L. Challenge of Change (O.U.P. 1956).

Triggs, F. O. Personnel work in Schools of Nursing (Philadelphia. Saunders, 1945).

Turner, A. L. The Story of a Great Hospital: the Royal Infirmary, Edinburgh, 1729-1929 (Oliver and Boyd, 1937).

Two points of view..

YOUR PATIENT AND LUCOZADE

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(*signed*) ... M.B., B.S. (Lond.), M.R.C.S.

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